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Project Code & Schematics Subject: M790 Main Board_6L

PCB P/N: 1P-0086J01-6010 (IRIS)

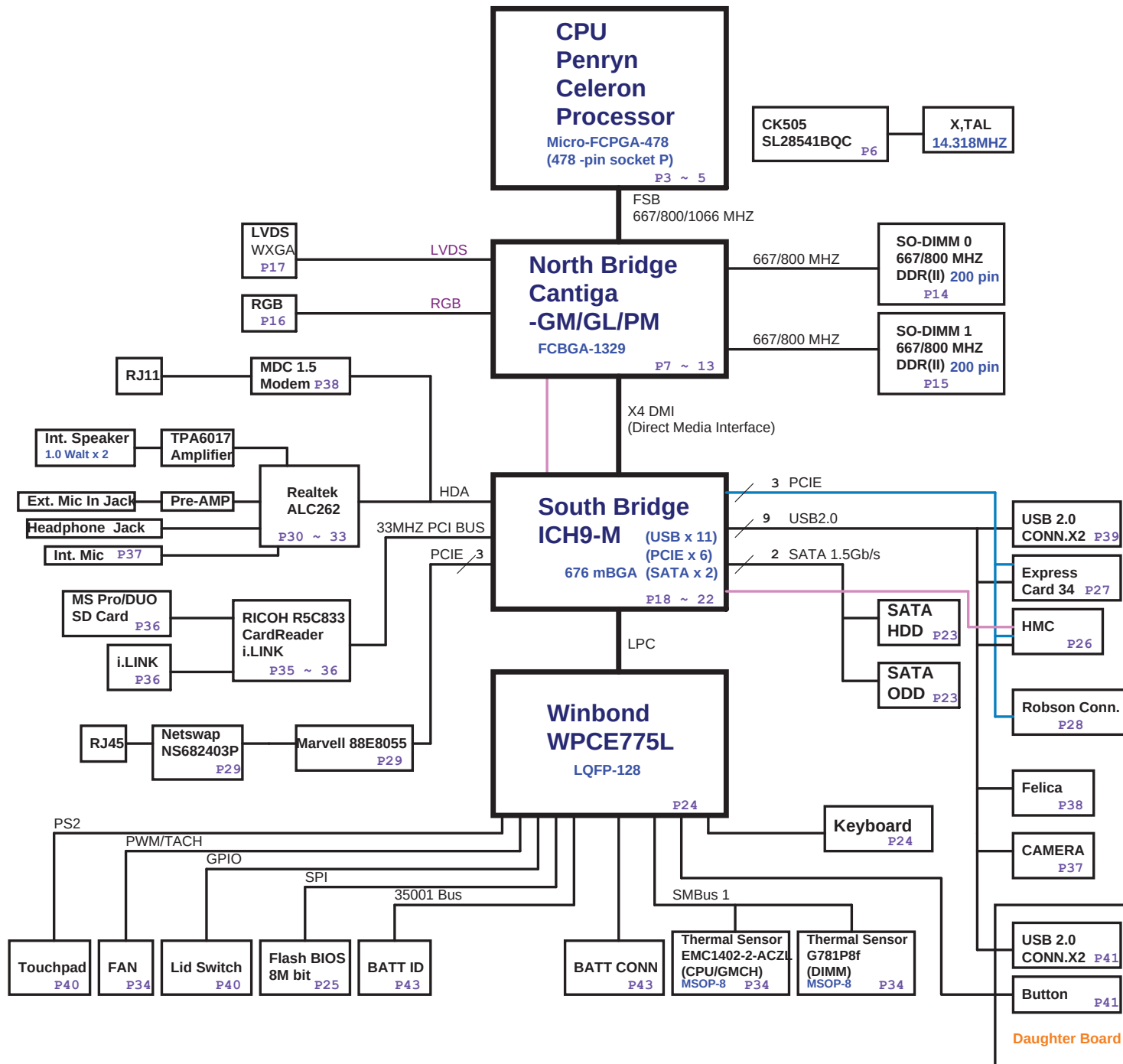
U/B P/N: 1P-1086J02-6010 (IRIS)

P/B P/N: 1P-1086J03-6010 (IRIS)

R/B P/N: 1P-1086J01-6010 (IRIS)

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Title Index Page			
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M790(Montevina)



7 H_A# [3..35]

7 H_ADSTB#0
7 H_REQ# [4..0]

7 H_ADSTB#1

19 H_A20M#
19 H_FERR#
19 H_IGNNE#

19 H_STPCLK#
19 H_INTR#
19 H_NMI#
19 H_SMI#

TP15 20MIL 1 TP CPU RSVD01 M4
TP18 20MIL 1 TP CPU RSVD02 N5
TP7 20MIL 1 TP CPU RSVD03 T2
TP11 20MIL 1 TP CPU RSVD04 V3
TP5 20MIL 1 TP CPU RSVD05 B2
TP14 20MIL 1 CPU TEST7 C3
TP6 20MIL 1 TP CPU RSVD07 D2
TP25 20MIL 1 TP CPU RSVD08 D22
TP10 20MIL 1 TP CPU RSVD09 D3
TP19 20MIL 1 TP CPU RSVD10 F6

H A#3 J4
H A#4 L5
H A#5 L4
H A#6 K5
H A#7 M3
H A#8 N2
H A#9 J1
H A#10 N3
H A#11 P2
H A#12 P5
H A#13 L2
H A#14 P4
H A#15 P1
H A#16 R1
H A#17 Y2
H A#18 U5
H A#19 R3
H A#20 W6
H A#21 U4
H A#22 Y5
H A#23 U1
H A#24 R4
H A#25 T5
H A#26 T3
H A#27 W2
H A#28 W5
H A#29 Y4
H A#30 U2
H A#31 V4
H A#32 W3
H A#33 AA4
H A#34 AB2
H A#35 AA3

H REQ#0 K3
H REQ#1 H2
H REQ#2 K2
H REQ#3 J3
H REQ#4 L1

A[3]#
A[4]#
A[5]#
A[6]#
A[7]#
A[8]#
A[9]#
A[10]#
A[11]#
A[12]#
A[13]#
A[14]#
A[15]#
A[16]#
A[17]#
A[18]#
A[19]#
A[20]#
A[21]#
A[22]#
A[23]#
A[24]#
A[25]#
A[26]#
A[27]#
A[28]#
A[29]#
A[30]#
A[31]#
A[32]#
A[33]#
A[34]#
A[35]#

A20M#
FERR#
IGNNE#

STPCLK#
LINT0
LINT1
SMI#

RSVD[01]
RSVD[02]
RSVD[03]
RSVD[04]
RSVD[05]
RSVD[06]
RSVD[07]
RSVD[08]
RSVD[09]
RSVD[10]

CPU SOCKET_478P
FOX_P24782A-274M-01

ADDR GROUP 0
CONTROL

REQ[0]#
REQ[1]#
REQ[2]#
REQ[3]#
REQ[4]#

ADDR GROUP 1
STP/TP SIGNALS
XDP/TP SIGNALS

THERMAL

PROCHOT#
THERMDA
THERMDC

THRMTRIP#

H CLK
BCLK[0]
BCLK[1]

RESERVED

H1 ADS# 7
E2 BNR# 7
G5 BPR# 7
H5 DEFER# 7
F21 DRDY# 7
E1 DBSY# 7
F1 BREQ#0 7
D20 IERR#
B3 INIT# 19
H4 LOCK# 7
C1 H_CPURST# 7
E3 H_RS#0 7
F4 H_RS#1 7
G3 H_RS#2 7
G2 H_TRDY# 7
G6 H_HIT# 7
F4 H_HITM# 7

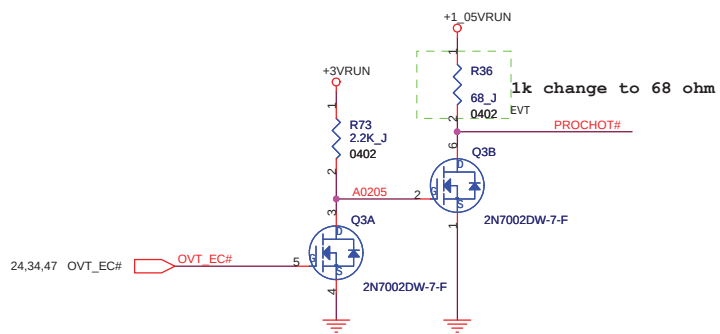
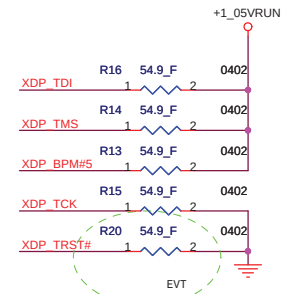
AD4 XDP_BPM#0 1
AD3 XDP_BPM#1 1
AD1 XDP_BPM#2 1
AC4 XDP_BPM#3 1
AC2 XDP_BPM#4 1
AC1 XDP_BPM#5 1
AC5 XDP_TCK
AA6 XDP_TDI
AB3 XDP_TDO
AB5 XDP_TMS
AB6 XDP_TRST#
C20 DBR# 1

D21 PROCHOT#
A24 H_THERMDA 34
B25 H_THERMDC 34
C7 R17 1 0 J 2 0201 PM_THRMTRIP# 8,19,24

A22 CLK_CPU_BCLK 6
A21 CLK_CPU_BCLK# 6

20MIL TP3
+1_05VRUN
R34
56_J
0402

H_CPURST# 1 20MIL TP2



Place close to CPU

Route the TEST3 and TEST5 signals through a ground referenced $Z_o = 55\text{-ohm}$ trace that ends in a via that is near a GND via and is accessible through an oscilloscope connection. TEST4 and TEST6 and TEST7 pins can be left NC.

Layout Note:
 $Z_o = 55\text{ ohm}$, $0.5''$
max for GTLREF.

7 H_D#[63..0]

7 H_DSTBN#0
7 H_DSTBP#0
7 H_DINV#0

7 H_DSTBN#1
7 H_DSTBP#1
7 H_DINV#1

6 CPU_BSEL0
6 CPU_BSEL1
6 CPU_BSEL2

U26B
H D#0 E22
H D#1 F24
H D#2 F26
H D#3 G22
H D#4 E23
H D#5 G25
H D#6 E25
H D#7 E23
H D#8 K24
H D#9 G24
H D#10 J24
H D#11 J23
H D#12 H22
H D#13 E26
H D#14 K22
H D#15 H23

H D#16 N22
H D#17 K26
H D#18 P28
H D#19 R23
H D#20 L23
H D#21 M24
H D#22 L22
H D#23 M23
H D#24 P25
H D#25 P23
H D#26 P22
H D#27 T24
H D#28 R24
H D#29 L25
H D#30 T25
H D#31 L26

H GTLREF AD26
CPU TEST1 C23
CPU TEST2 D25
CPU TEST3 C24
CPU TEST4 AF26
CPU TEST5 AE1
CPU TEST6 A26

CPU SOCKET_478P
FOX_P24782A-274M-01

DATA GRP 0

DATA GRP 1

DATA GRP 3

MISC

D[0]#
D[1]#
D[2]#
D[3]#
D[4]#
D[5]#
D[6]#
D[7]#
D[8]#
D[9]#
D[10]#
D[11]#
D[12]#
D[13]#
D[14]#
D[15]#
DSTBN[0]#
DSTBP[0]#
DINV[0]#

D[16]#
D[17]#
D[18]#
D[19]#
D[20]#
D[21]#
D[22]#
D[23]#
D[24]#
D[25]#
D[26]#
D[27]#
D[28]#
D[29]#
D[30]#
D[31]#
DSTBN[1]#
DSTBP[1]#
DINV[1]#

GTLREF
TEST1
TEST2
TEST3
TEST4
TEST5
TEST6

BSEL[0]
BSEL[1]
BSEL[2]
PSI#

Y22 H D#32
AB24 H D#33
V24 H D#34
V26 H D#35
V23 H D#36
T22 H D#37
U25 H D#38
U23 H D#39
Y25 H D#40
W22 H D#41
Y23 H D#42
W24 H D#43
W25 H D#44
AA23 H D#45
AA24 H D#46
AB25 H D#47
Y26
AA26
U22

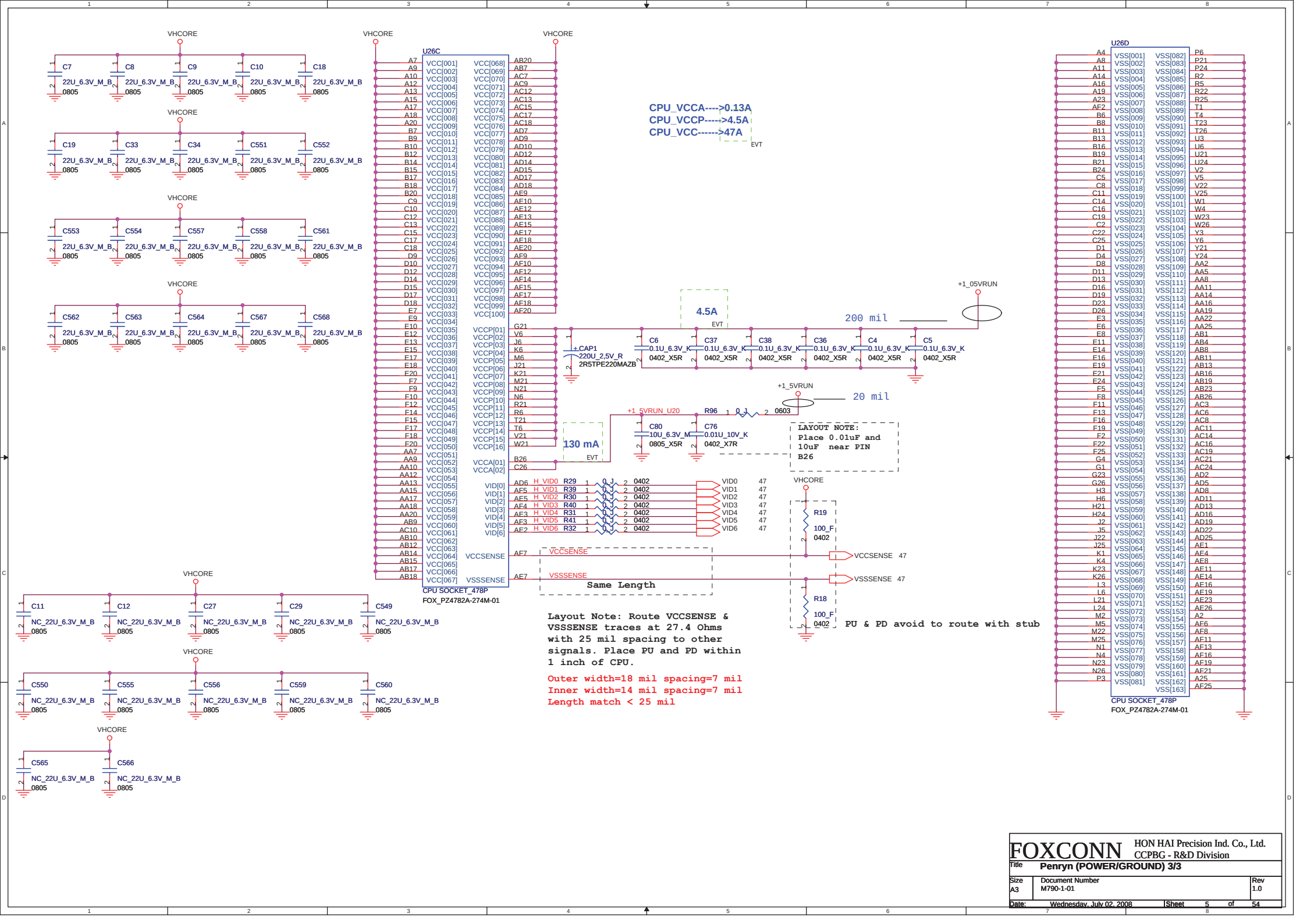
AE24 H D#48
AD24 H D#49
AA21 H D#50
AB22 H D#51
AB21 H D#52
AC26 H D#53
AD20 H D#54
AE22 H D#55
AE23 H D#56
AC25 H D#57
AE21 H D#58
AD21 H D#59
AC22 H D#60
AD23 H D#61
AE22 H D#62
AC23 H D#63
AE25
AE24
AC20

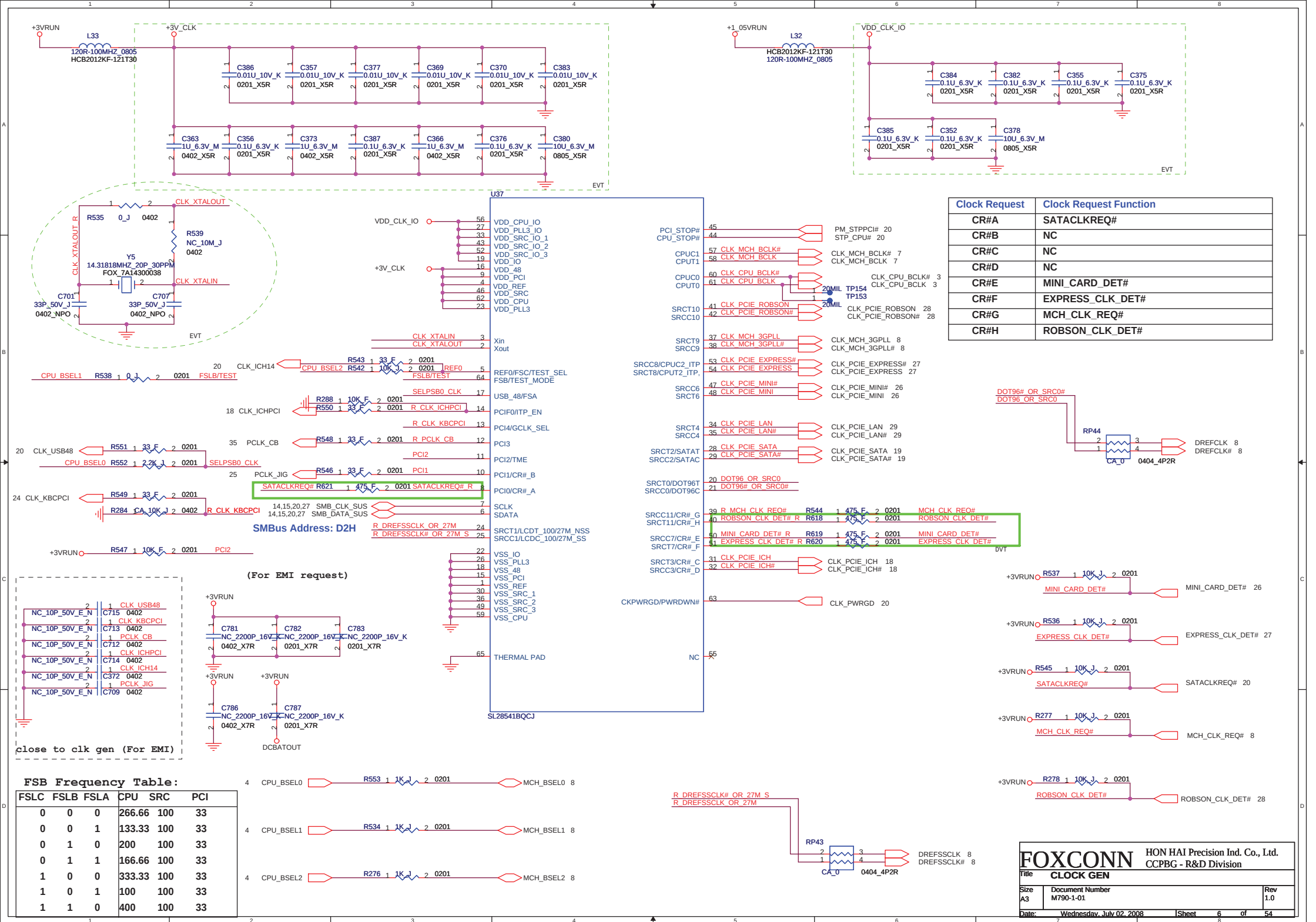
R26 COMP0 R68 2 27.4 5 1 0402
U26 COMP1 R69 2 54.9 5 1 0402
AA1 COMP2 R12 2 27.4 5 1 0402
Y1 COMP3 R11 2 54.9 5 1 0402

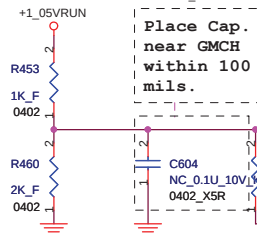
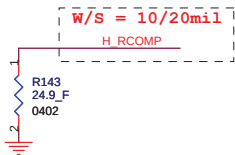
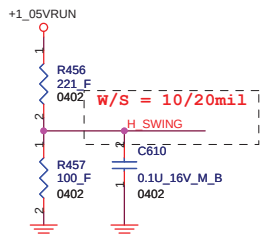
E5
B5
D24
DE
D7
AE6

H_PWRGD 1 20MIL TP135
H_CPUSLP# 1 20MIL TP20

Layout Note:
Comp0,2 connect with $Z_o = 27.4\text{ ohm}$, make trace length shorter then $0.5''$. Width=18mil(MS)
Comp1,3 connect with $Z_o = 55\text{ ohm}$, make trace length shorter then $0.5''$. Width=5mil(MS)







H_D#0	F2	H_D#_0
H_D#1	G8	H_D#_1
H_D#2	F8	H_D#_2
H_D#3	E5	H_D#_3
H_D#4	G2	H_D#_4
H_D#5	H6	H_D#_5
H_D#6	H2	H_D#_6
H_D#7	F6	H_D#_7
H_D#8	D4	H_D#_8
H_D#9	H3	H_D#_9
H_D#10	M9	H_D#_10
H_D#11	M11	H_D#_11
H_D#12	J1	H_D#_12
H_D#13	J2	H_D#_13
H_D#14	N12	H_D#_14
H_D#15	J6	H_D#_15
H_D#16	P2	H_D#_16
H_D#17	L2	H_D#_17
H_D#18	R2	H_D#_18
H_D#19	N9	H_D#_19
H_D#20	L6	H_D#_20
H_D#21	M5	H_D#_21
H_D#22	J3	H_D#_22
H_D#23	N2	H_D#_23
H_D#24	R1	H_D#_24
H_D#25	N5	H_D#_25
H_D#26	N6	H_D#_26
H_D#27	P13	H_D#_27
H_D#28	N8	H_D#_28
H_D#29	L7	H_D#_29
H_D#30	N10	H_D#_30
H_D#31	M3	H_D#_31
H_D#32	Y3	H_D#_32
H_D#33	AD14	H_D#_33
H_D#34	Y6	H_D#_34
H_D#35	Y10	H_D#_35
H_D#36	Y12	H_D#_36
H_D#37	Y14	H_D#_37
H_D#38	Y7	H_D#_38
H_D#39	W2	H_D#_39
H_D#40	AA8	H_D#_40
H_D#41	Y9	H_D#_41
H_D#42	AA13	H_D#_42
H_D#43	AA9	H_D#_43
H_D#44	AA11	H_D#_44
H_D#45	AD11	H_D#_45
H_D#46	AD10	H_D#_46
H_D#47	AD13	H_D#_47
H_D#48	AE12	H_D#_48
H_D#49	AE9	H_D#_49
H_D#50	AA2	H_D#_50
H_D#51	AD8	H_D#_51
H_D#52	AA3	H_D#_52
H_D#53	AD3	H_D#_53
H_D#54	AD7	H_D#_54
H_D#55	AE14	H_D#_55
H_D#56	AE3	H_D#_56
H_D#57	AC1	H_D#_57
H_D#58	AE3	H_D#_58
H_D#59	AC3	H_D#_59
H_D#60	AE11	H_D#_60
H_D#61	AE8	H_D#_61
H_D#62	AG2	H_D#_62
H_D#63	AD6	H_D#_63

H_SWING C5
H_RCOMP E3

Traces width 10 mils.

CANTIGA GM

HOST

H_A#_3	A14	H_A#3
H_A#_4	C15	H_A#4
H_A#_5	F16	H_A#5
H_A#_6	H13	H_A#6
H_A#_7	C18	H_A#7
H_A#_8	M16	H_A#8
H_A#_9	J13	H_A#9
H_A#_10	P16	H_A#10
H_A#_11	R16	H_A#11
H_A#_12	N17	H_A#12
H_A#_13	M13	H_A#13
H_A#_14	E17	H_A#14
H_A#_15	P17	H_A#15
H_A#_16	E17	H_A#16
H_A#_17	G20	H_A#17
H_A#_18	B19	H_A#18
H_A#_19	J16	H_A#19
H_A#_20	E20	H_A#20
H_A#_21	H16	H_A#21
H_A#_22	J20	H_A#22
H_A#_23	L17	H_A#23
H_A#_24	A17	H_A#24
H_A#_25	B17	H_A#25
H_A#_26	L16	H_A#26
H_A#_27	C21	H_A#27
H_A#_28	J17	H_A#28
H_A#_29	H20	H_A#29
H_A#_30	B18	H_A#30
H_A#_31	K17	H_A#31
H_A#_32	B20	H_A#32
H_A#_33	F21	H_A#33
H_A#_34	K21	H_A#34
H_A#_35	L20	H_A#35

H_ADS#_0	H12	H_ADS#_0
H_ADSTB#_0	B16	H_ADSTB#_0
H_ADSTB#_1	G17	H_ADSTB#_1
H_BNR#	A9	H_BNR#
H_BPRI#	E11	H_BPRI#
H_BREQ#	G12	H_BREQ#
H_DEFER#	E9	H_DEFER#
H_DBSY#	B10	H_DBSY#
HPLL_CLK	AH7	CLK_MCH_BCLK#_6
HPLL_CLK#	AH6	CLK_MCH_BCLK#_6
H_DPWR#	J11	H_DPWR#_4
H_DRDY#	E9	H_DRDY#_3
H_HIT#	H9	H_HIT#_3
H_HITM#	E12	H_HITM#_3
H_LOCK#	H11	H_LOCK#_3
H_TRDY#	C9	H_TRDY#_3

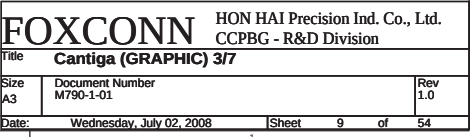
H_DINV#_0	J8	H_DINV#0
H_DINV#_1	L3	H_DINV#1
H_DINV#_2	Y13	H_DINV#2
H_DINV#_3	Y1	H_DINV#3

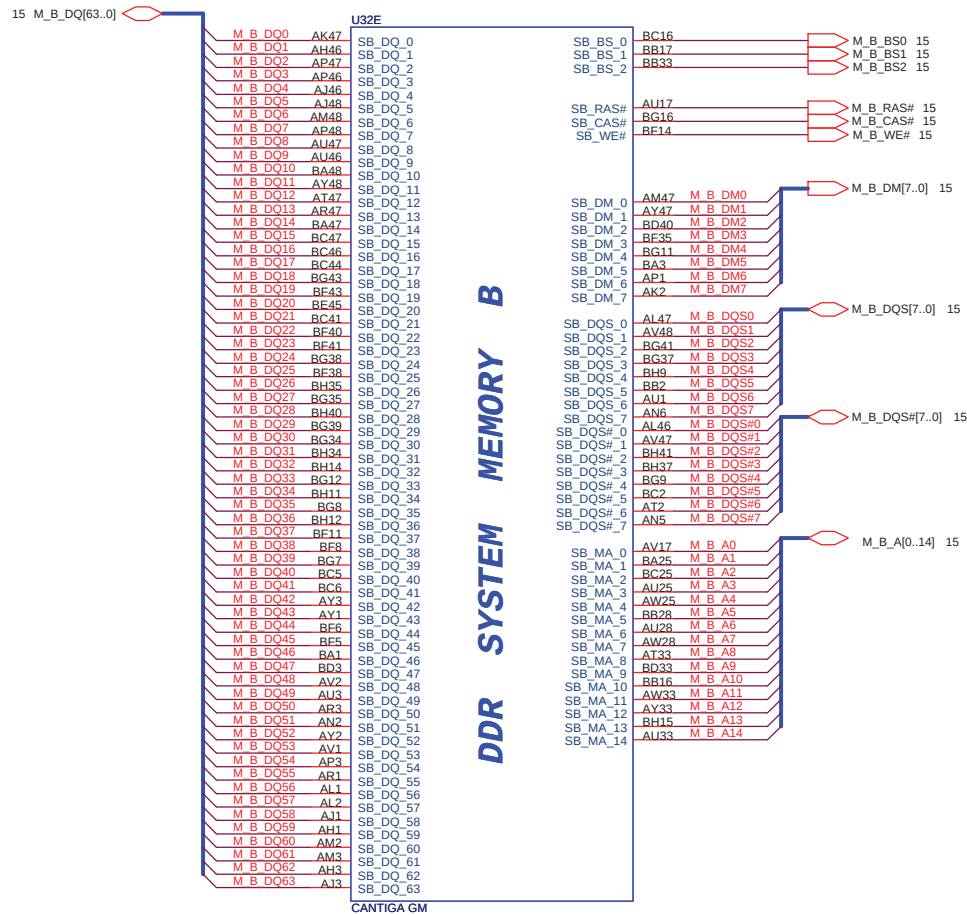
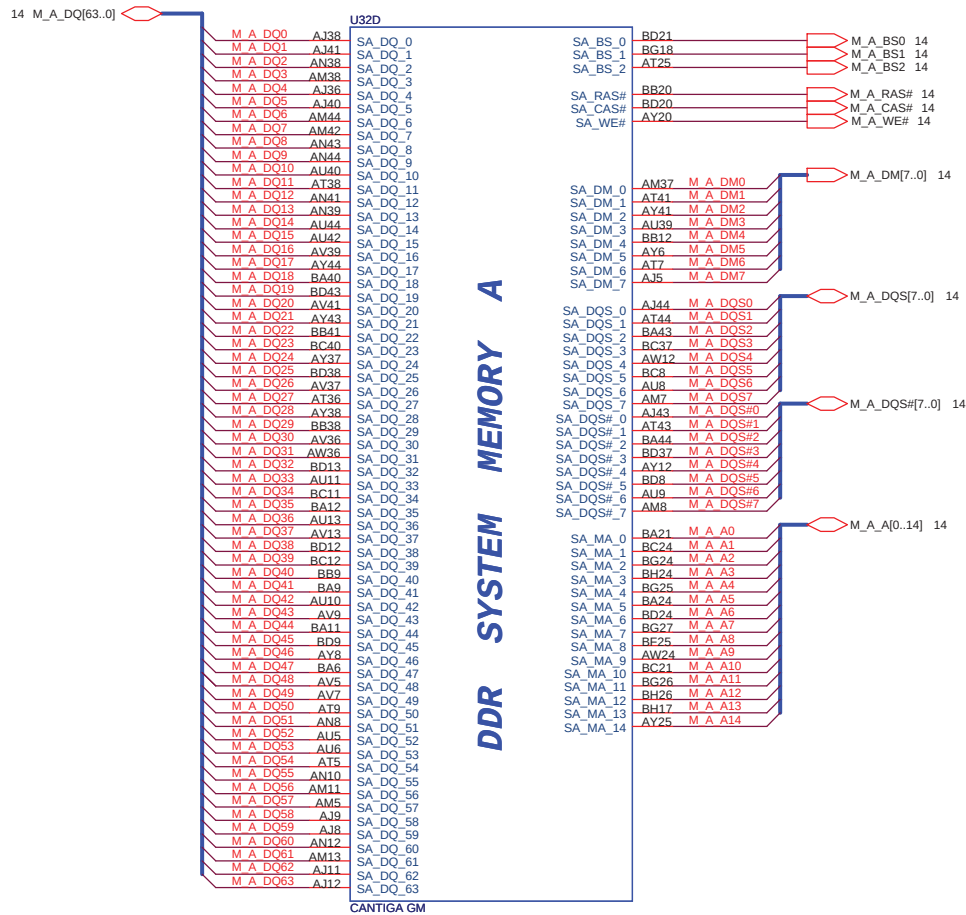
H_DSTBN#_0	L10	H_DSTBN#0
H_DSTBN#_1	M7	H_DSTBN#1
H_DSTBN#_2	AA5	H_DSTBN#2
H_DSTBN#_3	AE6	H_DSTBN#3

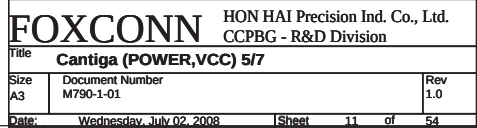
H_DSTBP#_0	L9	H_DSTBP#0
H_DSTBP#_1	M8	H_DSTBP#1
H_DSTBP#_2	AA6	H_DSTBP#2
H_DSTBP#_3	AE5	H_DSTBP#3

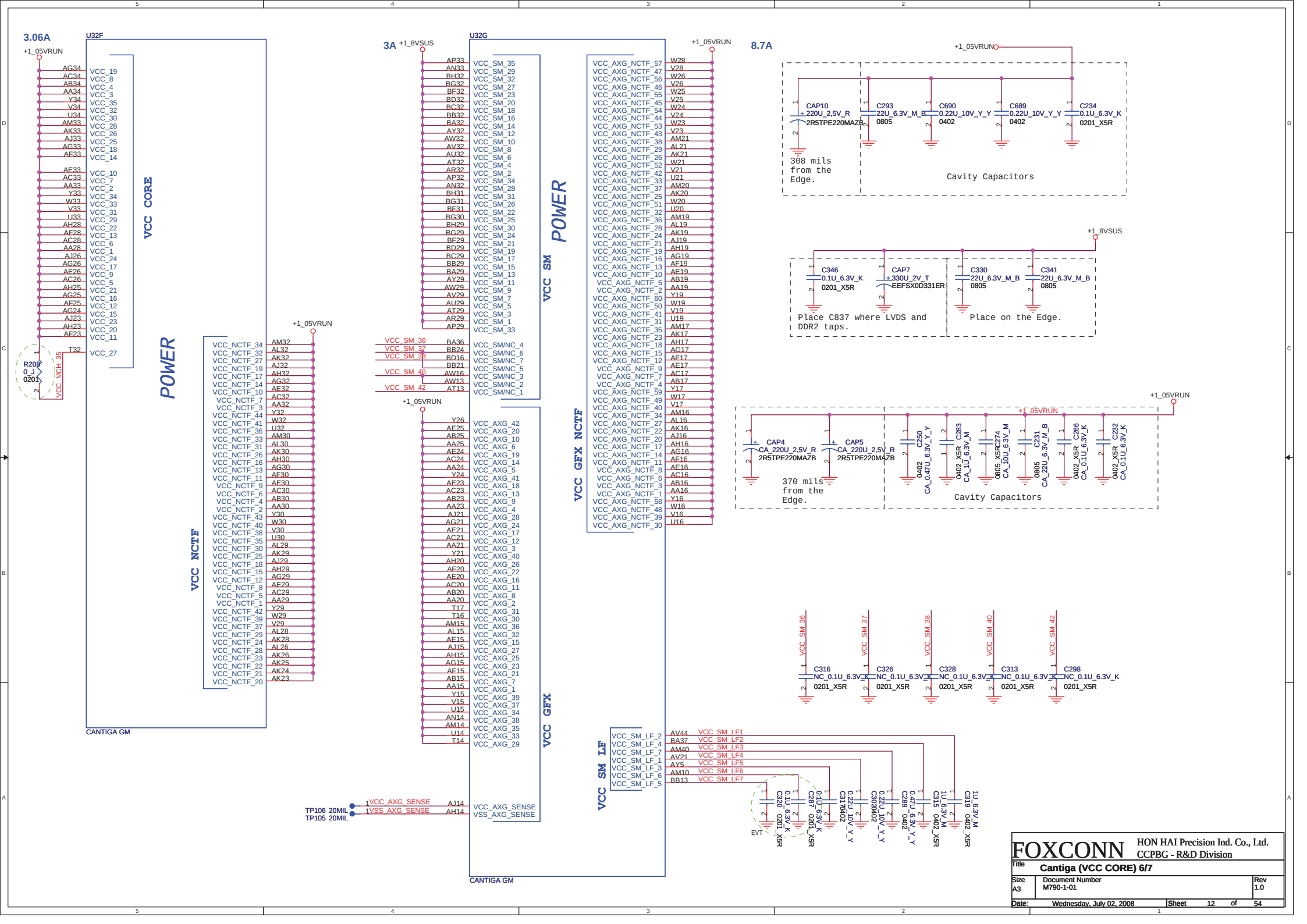
H_REQ#_0	B15	H_REQ#0
H_REQ#_1	K13	H_REQ#1
H_REQ#_2	E13	H_REQ#2
H_REQ#_3	B13	H_REQ#3
H_REQ#_4	B14	H_REQ#4

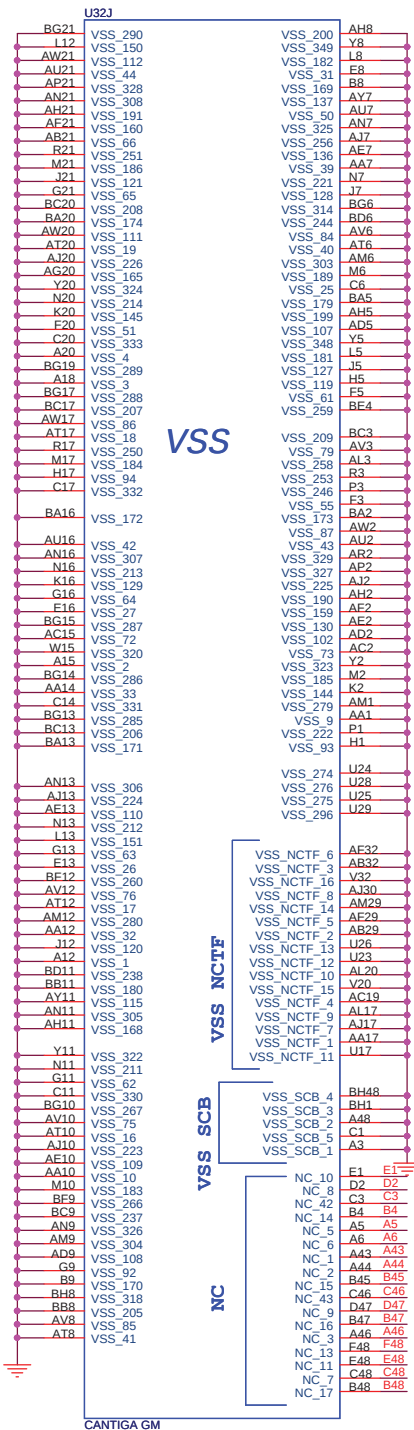
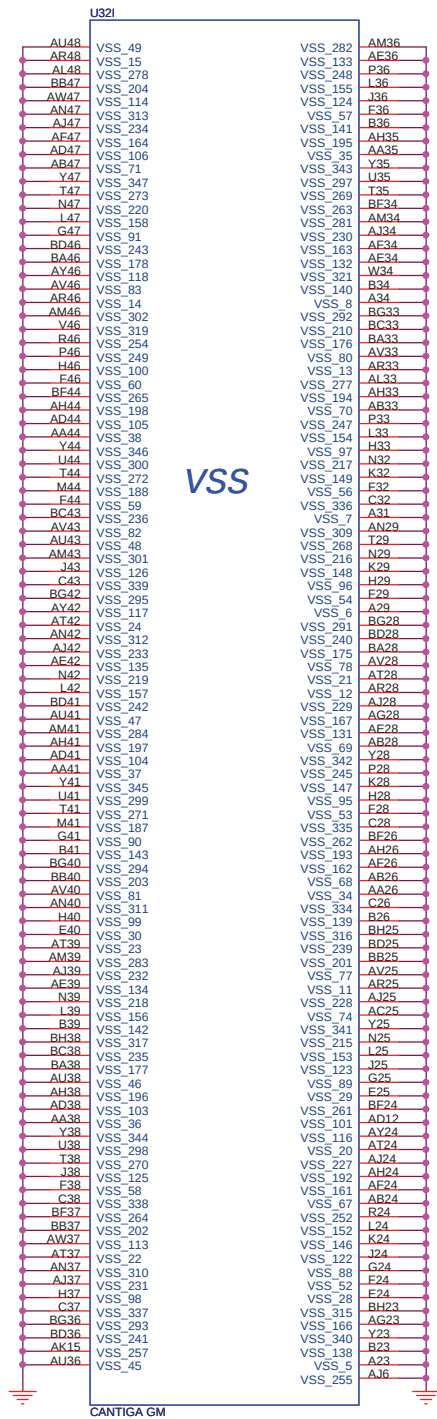
H_RS#_0	B6	H_RS#0
H_RS#_1	E12	H_RS#1
H_RS#_2	C8	H_RS#2

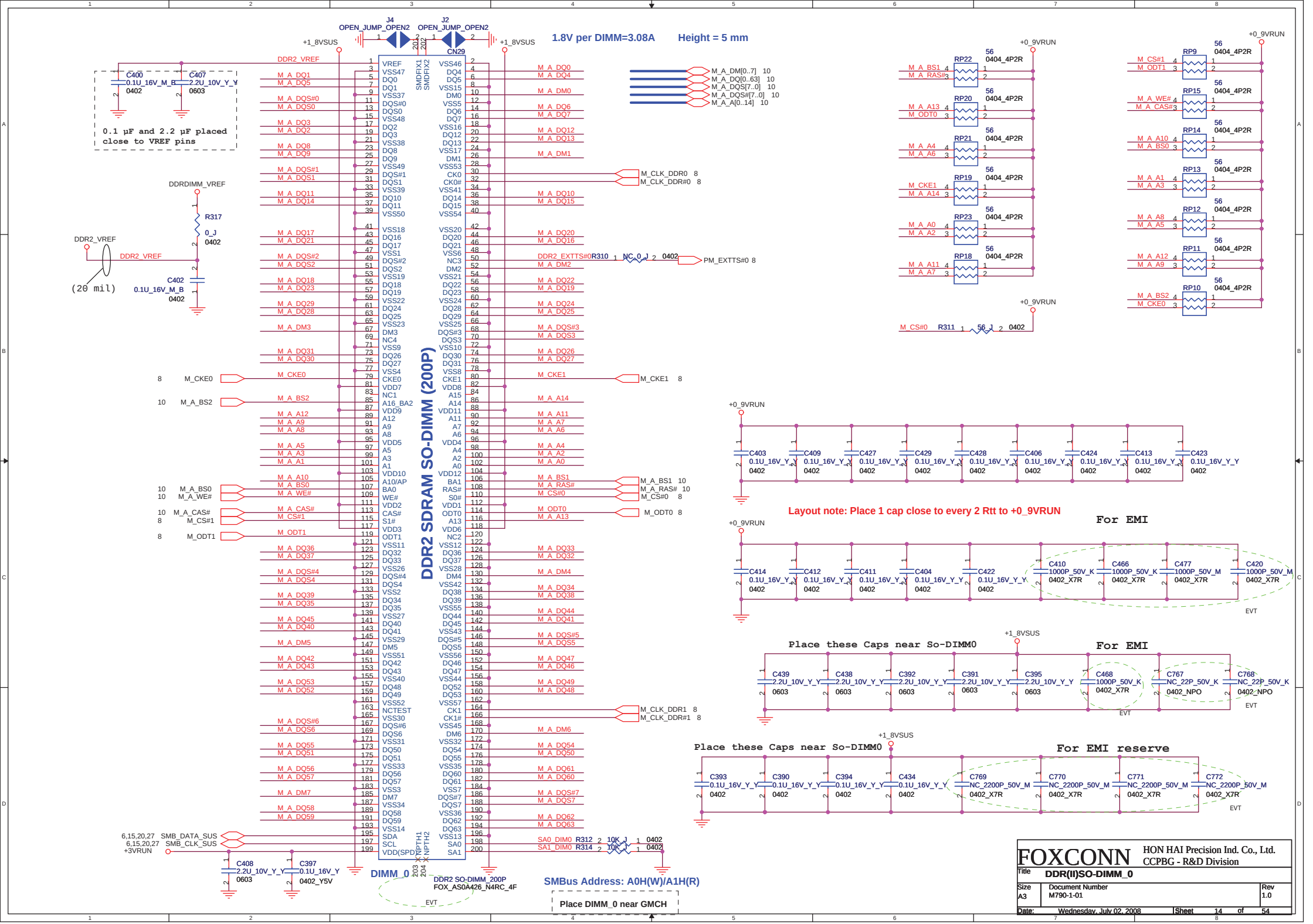


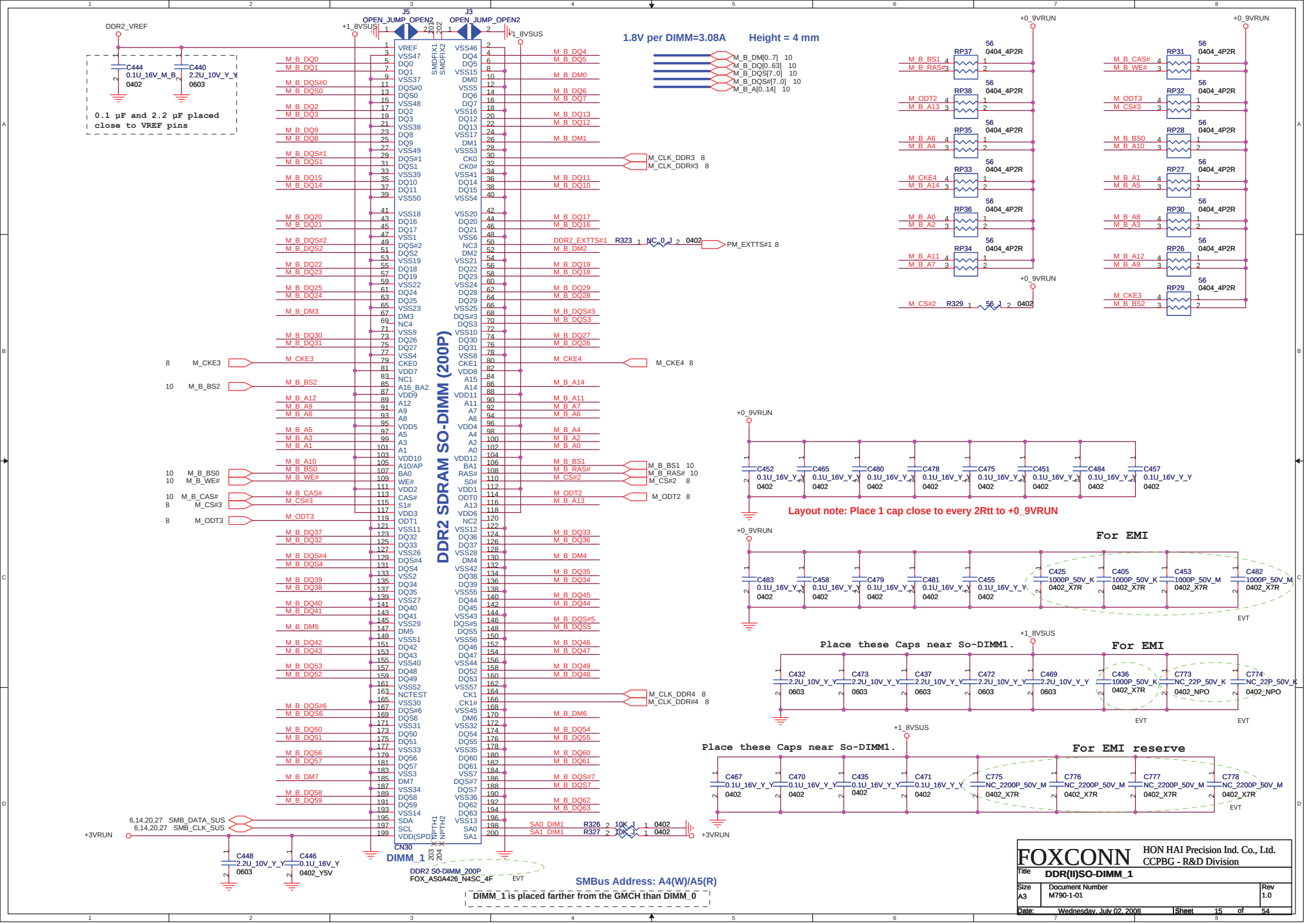


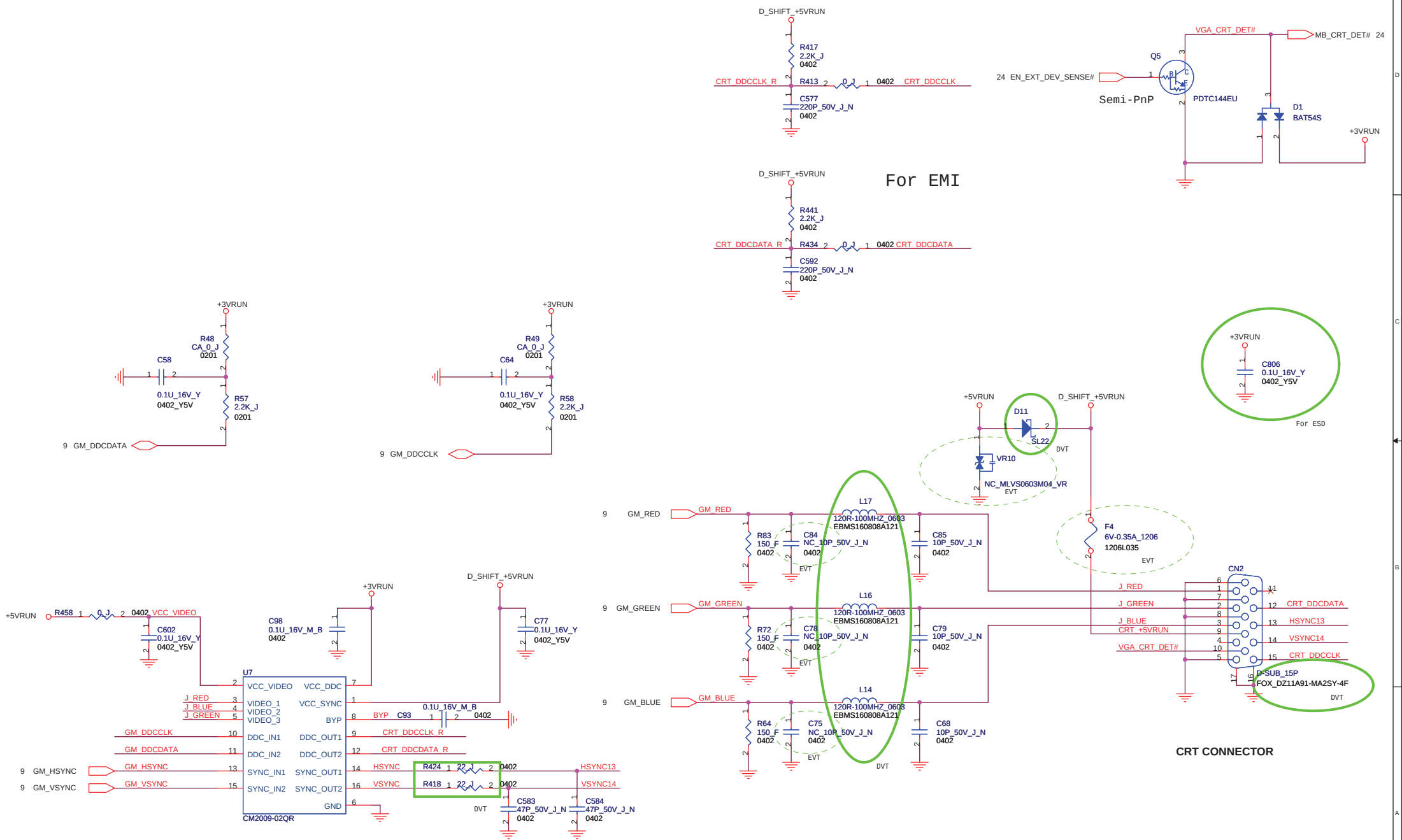


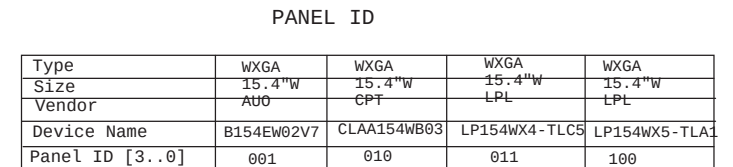
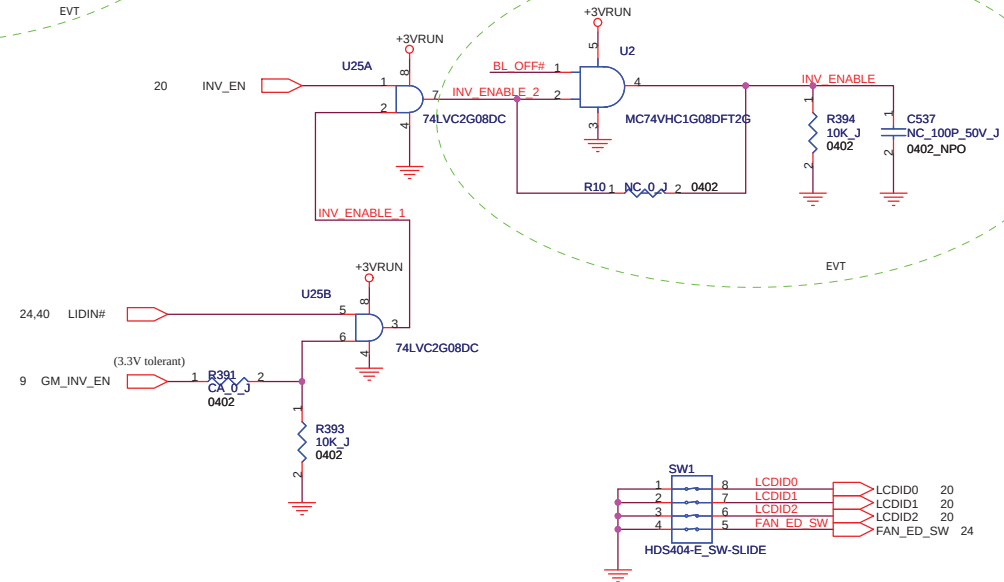
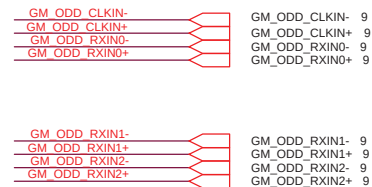


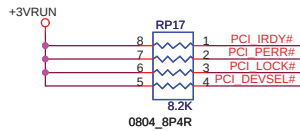
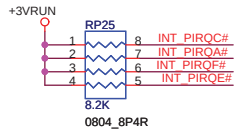
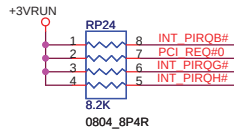
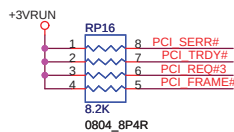
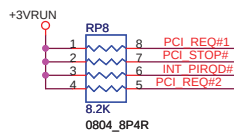




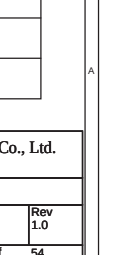
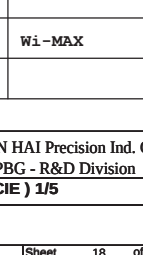
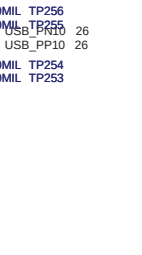
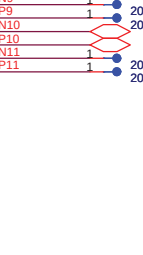
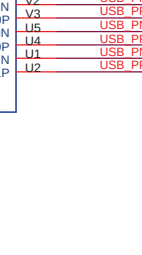
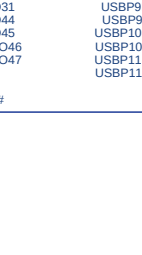
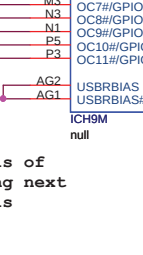
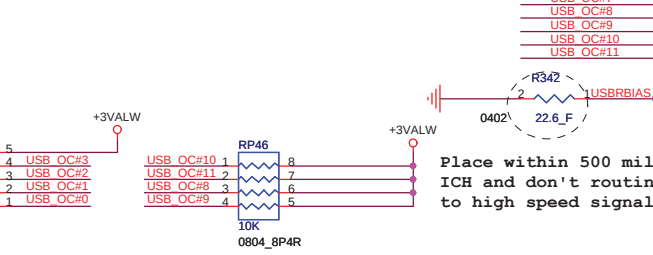
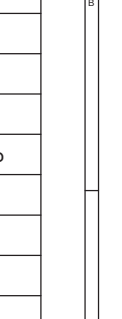
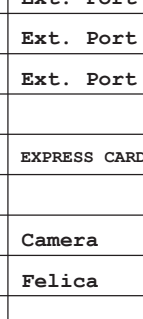
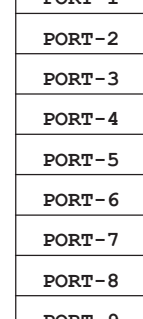
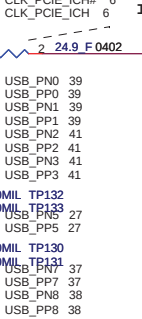
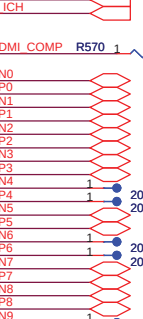
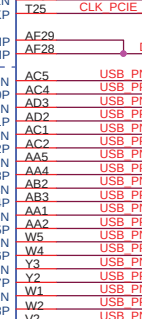
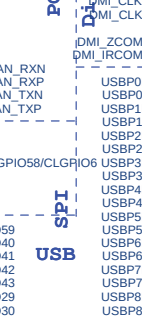
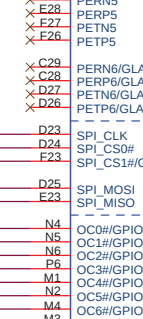
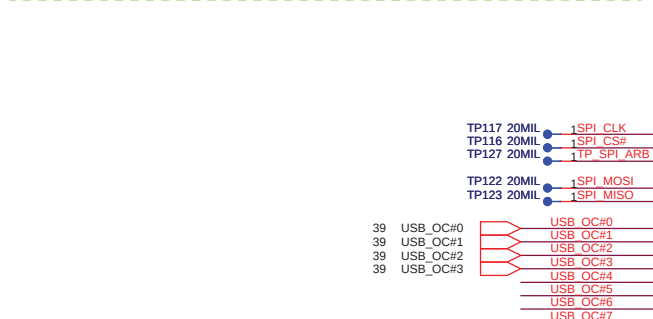
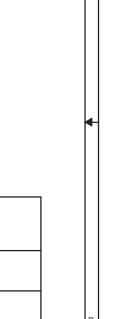
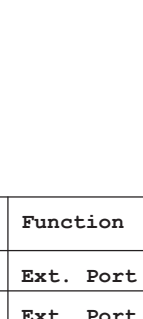
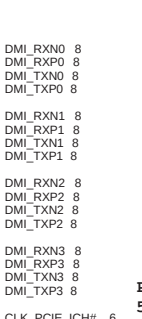
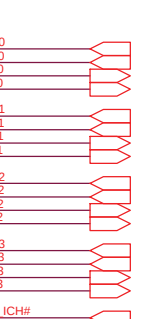
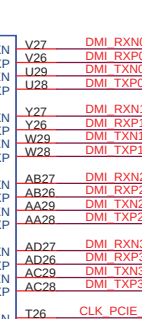
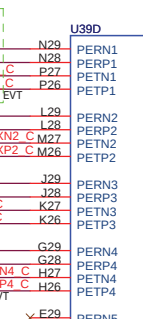
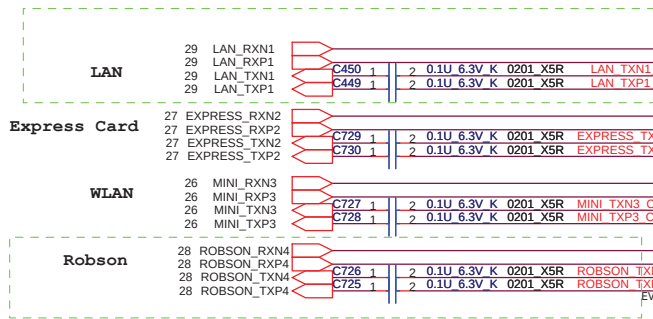
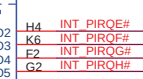
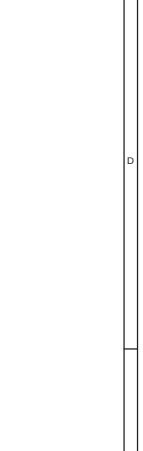
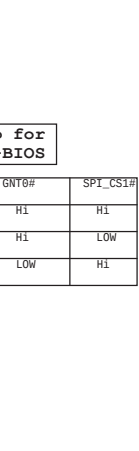
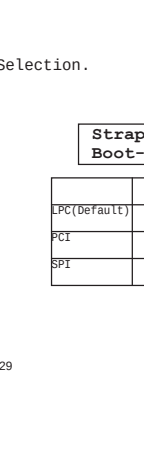
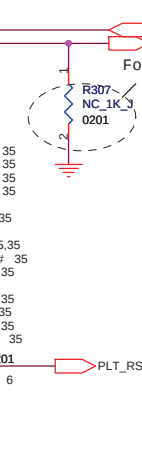
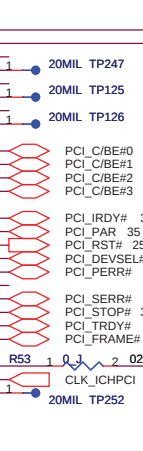
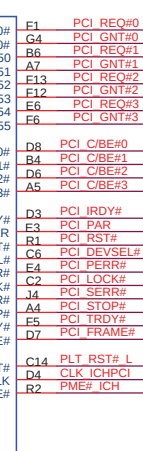
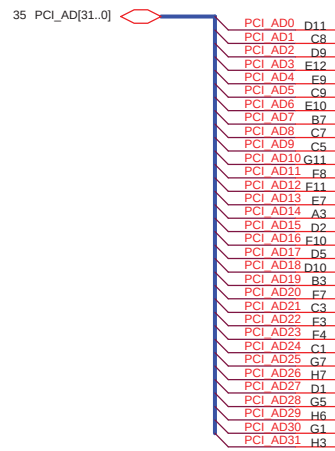




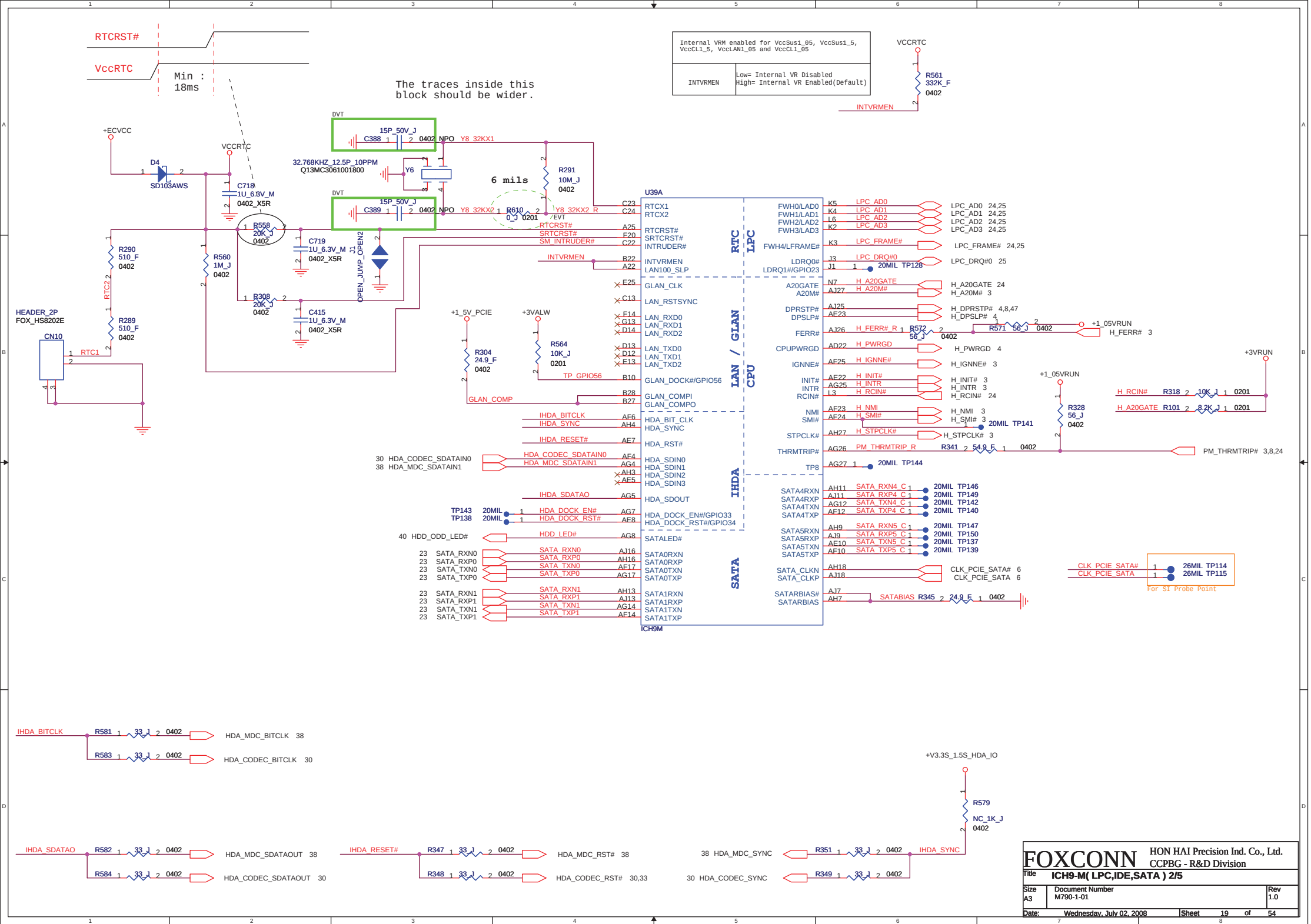


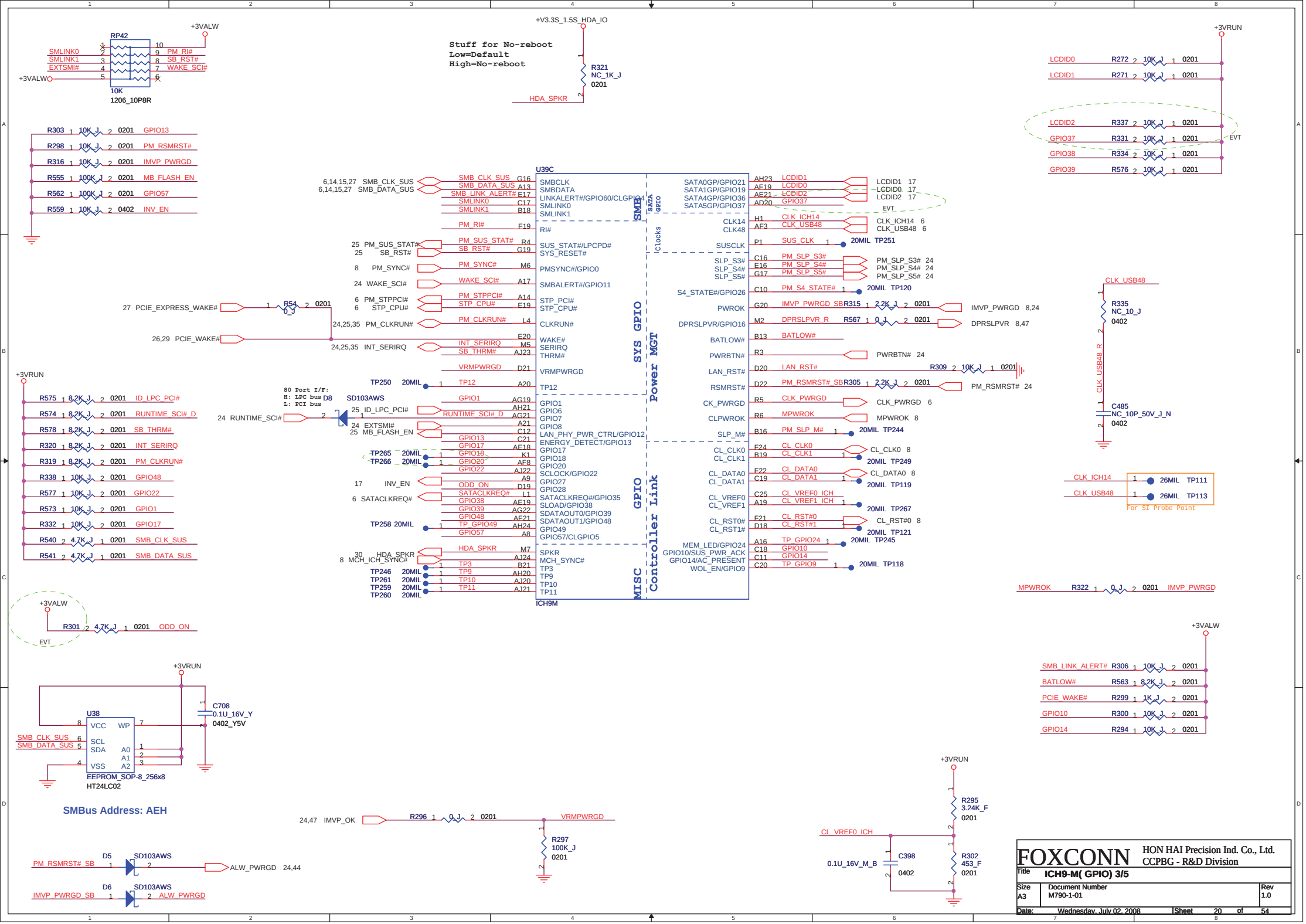


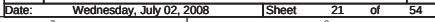
PCI Pullups

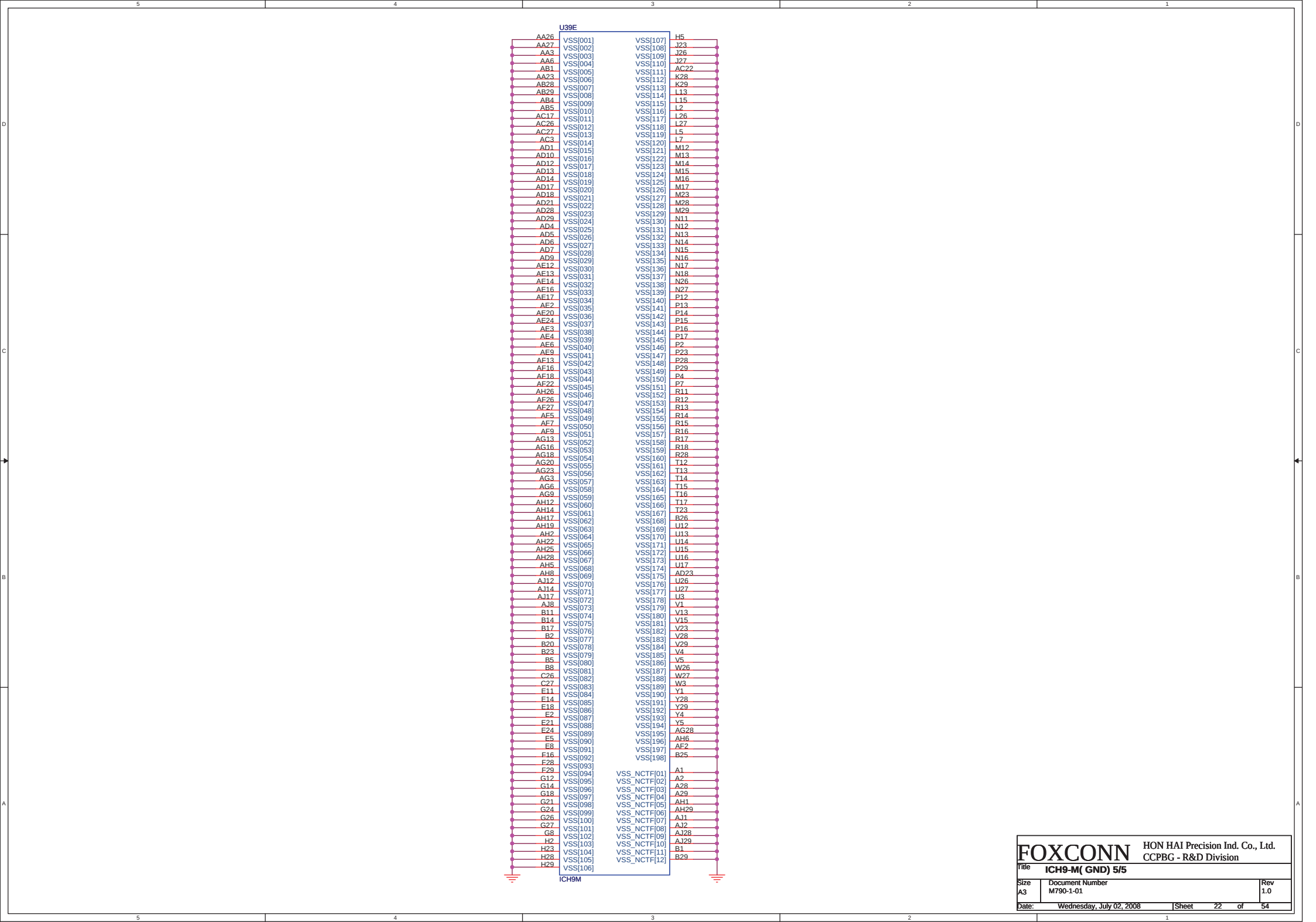


USB PORT	Function
PORT-0	Ext. Port
PORT-1	Ext. Port
PORT-2	Ext. Port
PORT-3	Ext. Port
PORT-4	
PORT-5	EXPRESS CARD
PORT-6	
PORT-7	Camera
PORT-8	Felica
PORT-9	
PORT-10	Wi-MAX
PORT-11	

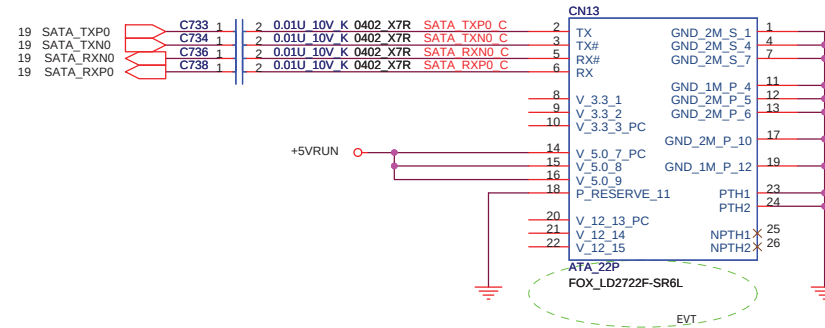
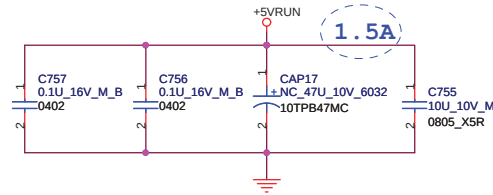




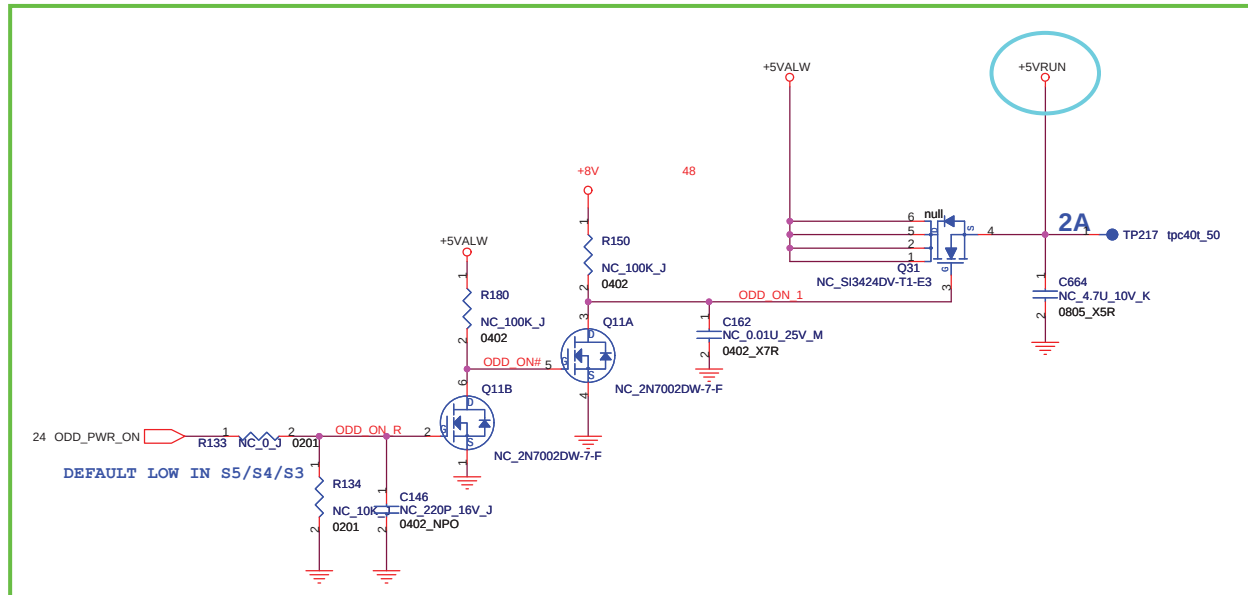
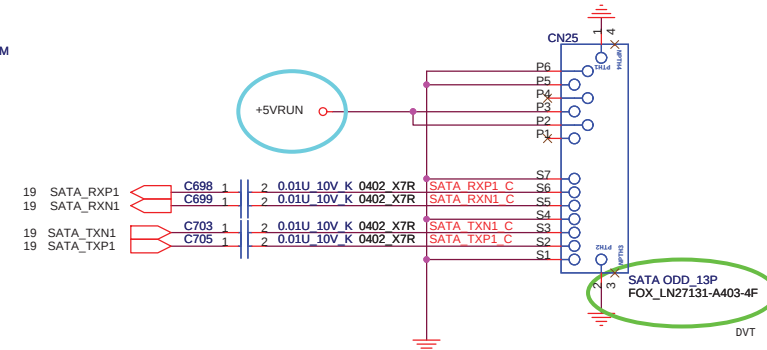
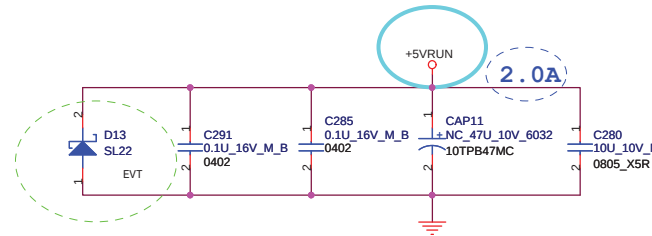


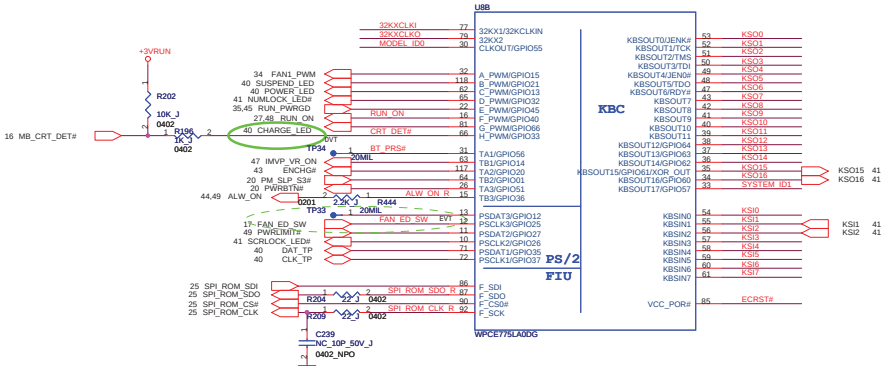
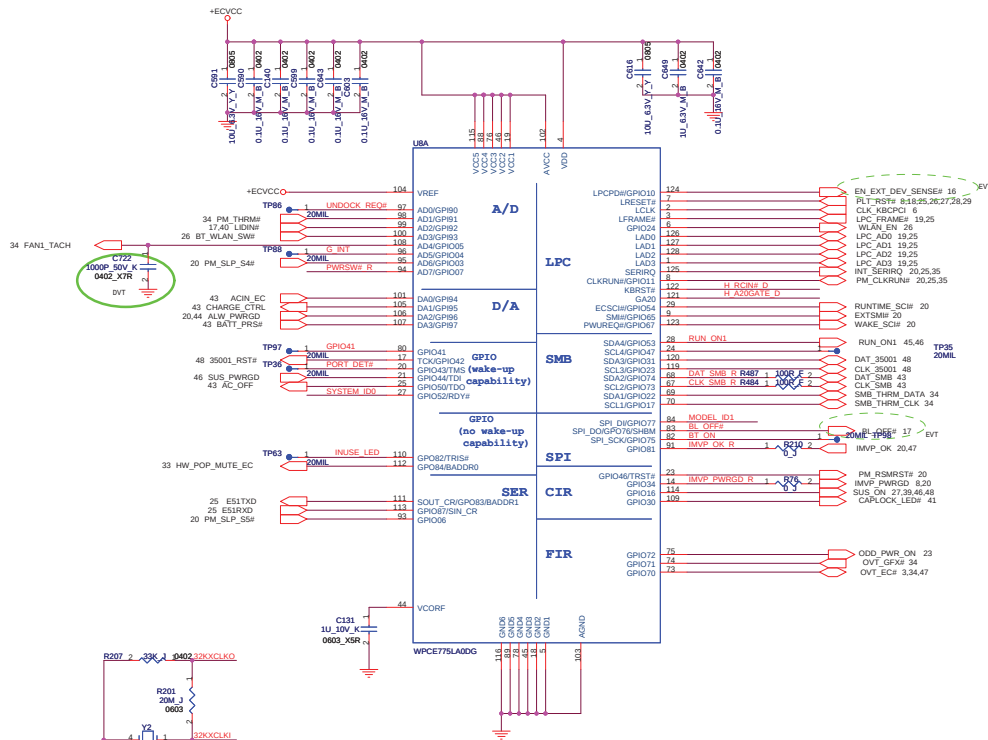
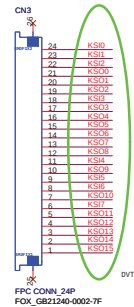


SATA HDD CONN



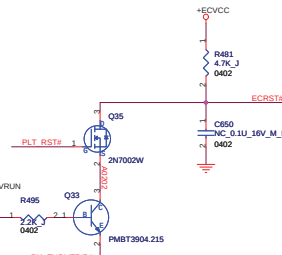
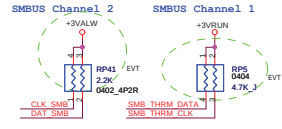
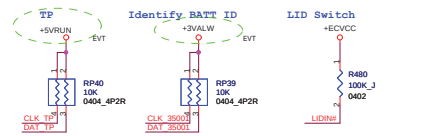
SATA ODD CONN

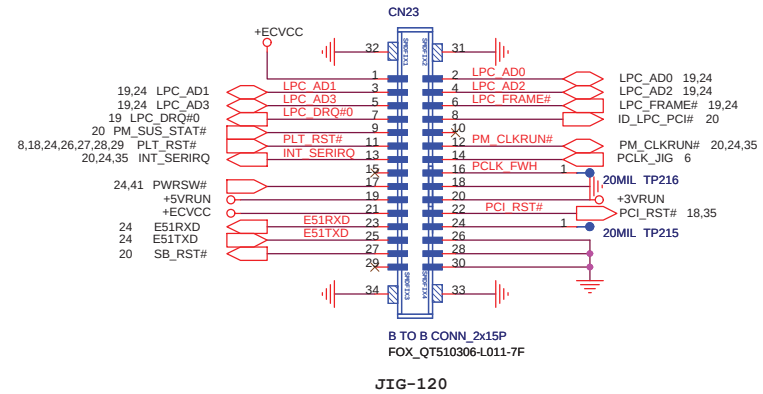
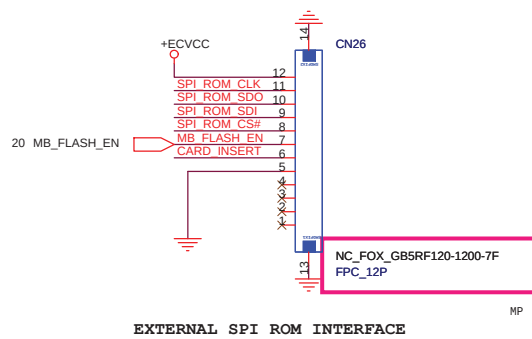
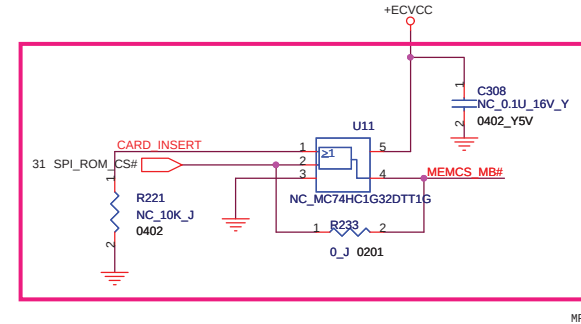
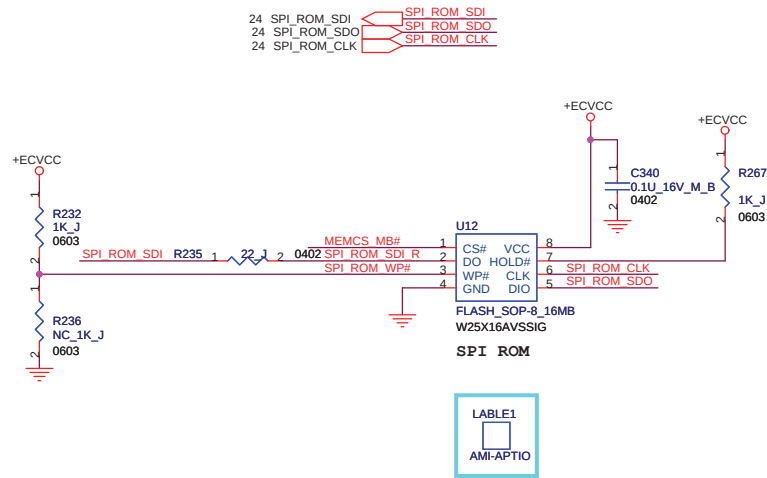




ID1	ID0	Sku
0	0	C09N-H
0	1	C09N-H

ID1	ID0	Sku
0	0	M790



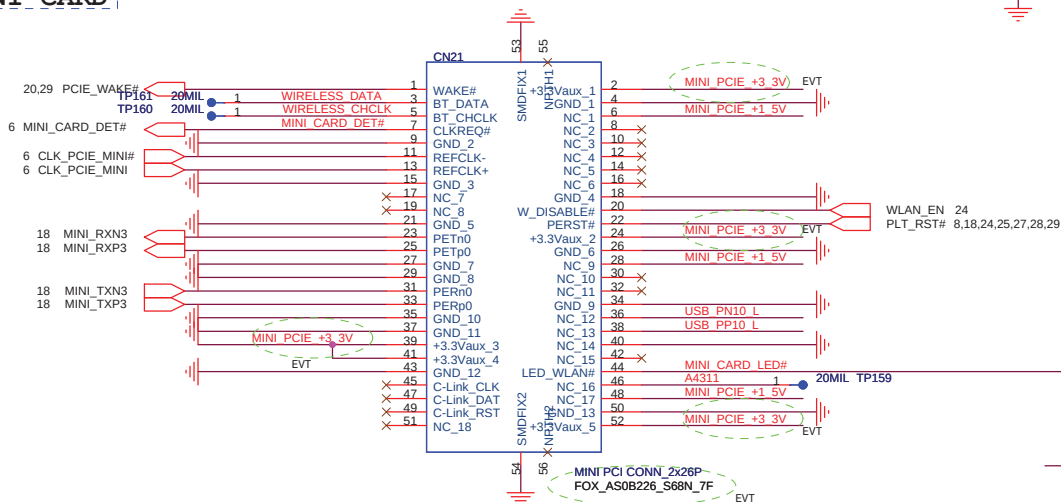
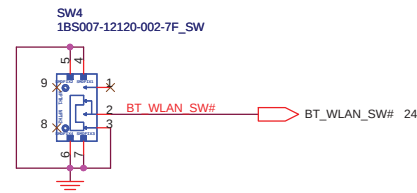




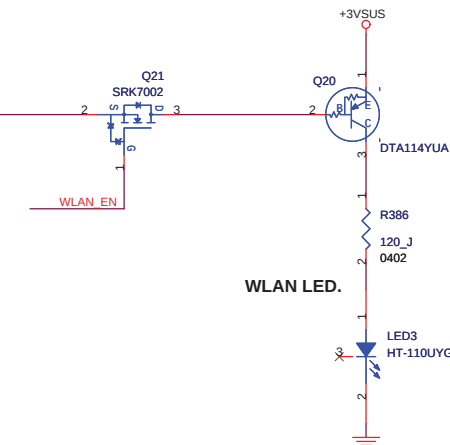
MINI CARD

+1_5V=>0.5A Peak/0.375A Normal
+3_3Vaux=>2.75A Peak/1.1A Normal

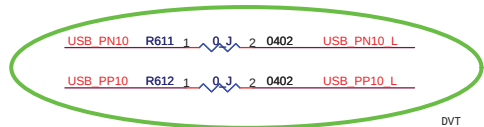
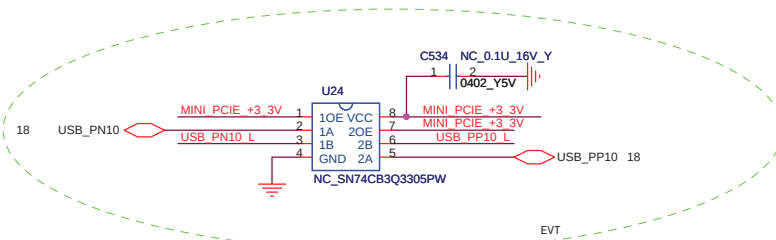
WLAN ON/OFF Switch



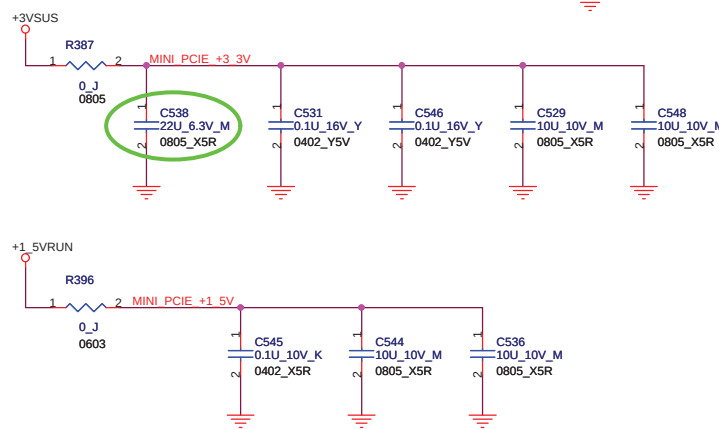
Mini Card.
WLAN



WLAN LED.

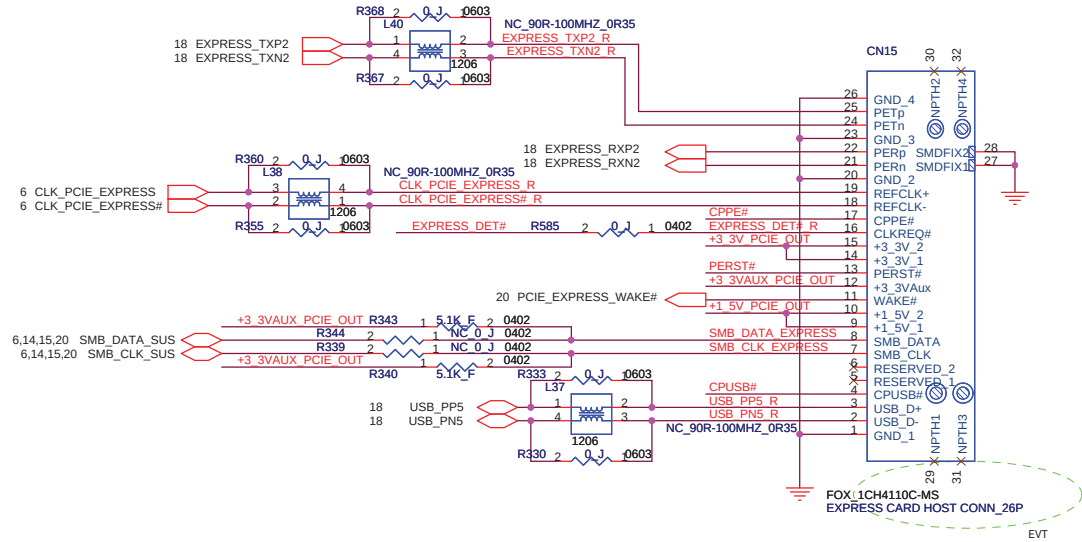
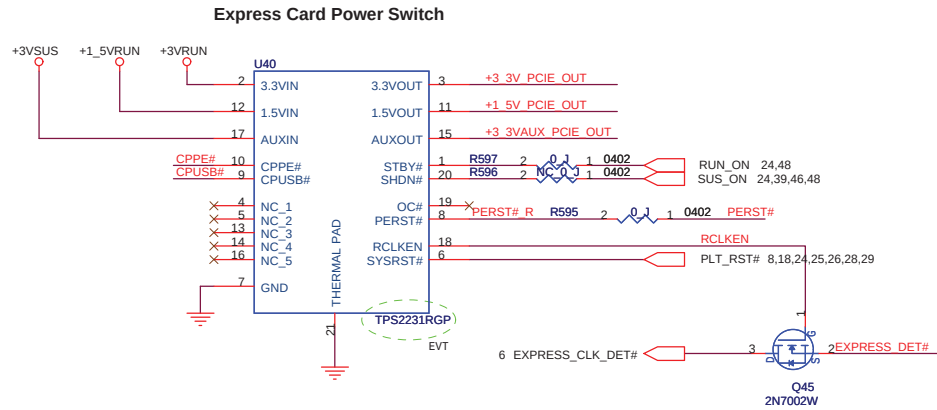


DVT

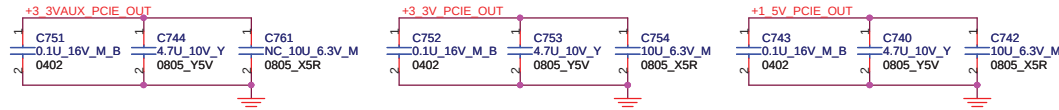
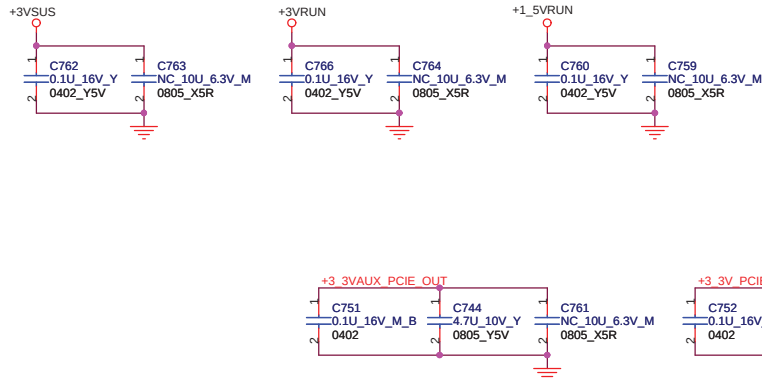
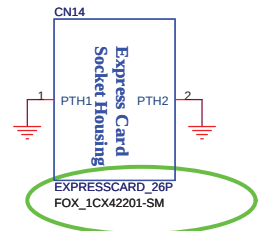


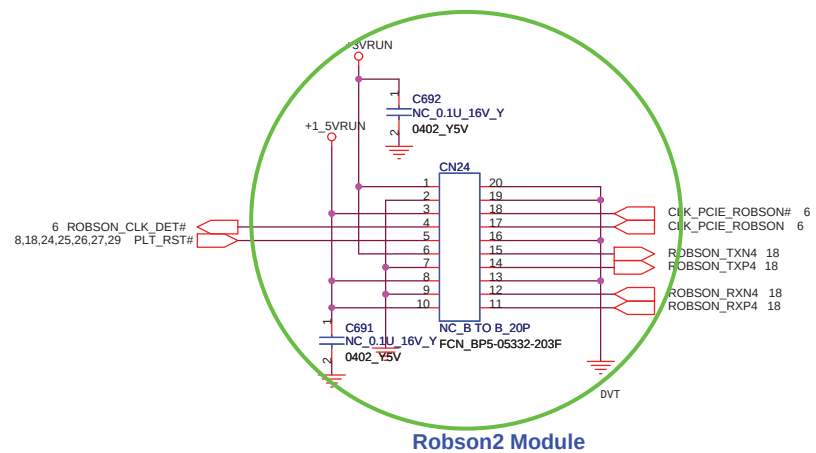
+1_5V=>1.3A
+3_3VAux=>0.6A
+3_3V=>2.5A

Express Card Power Switch

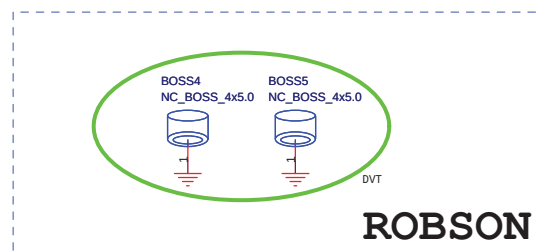


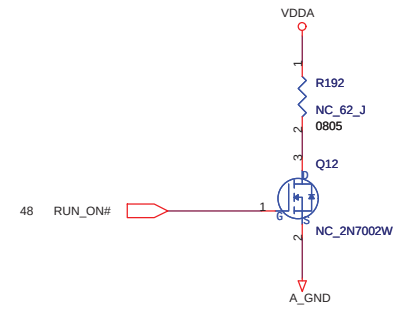
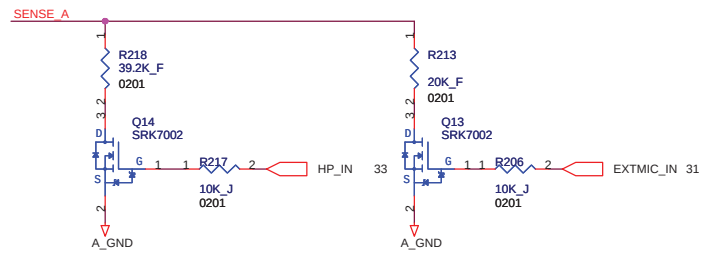
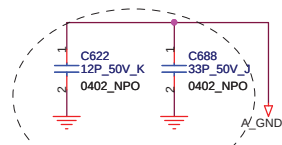
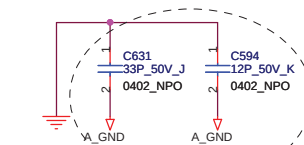
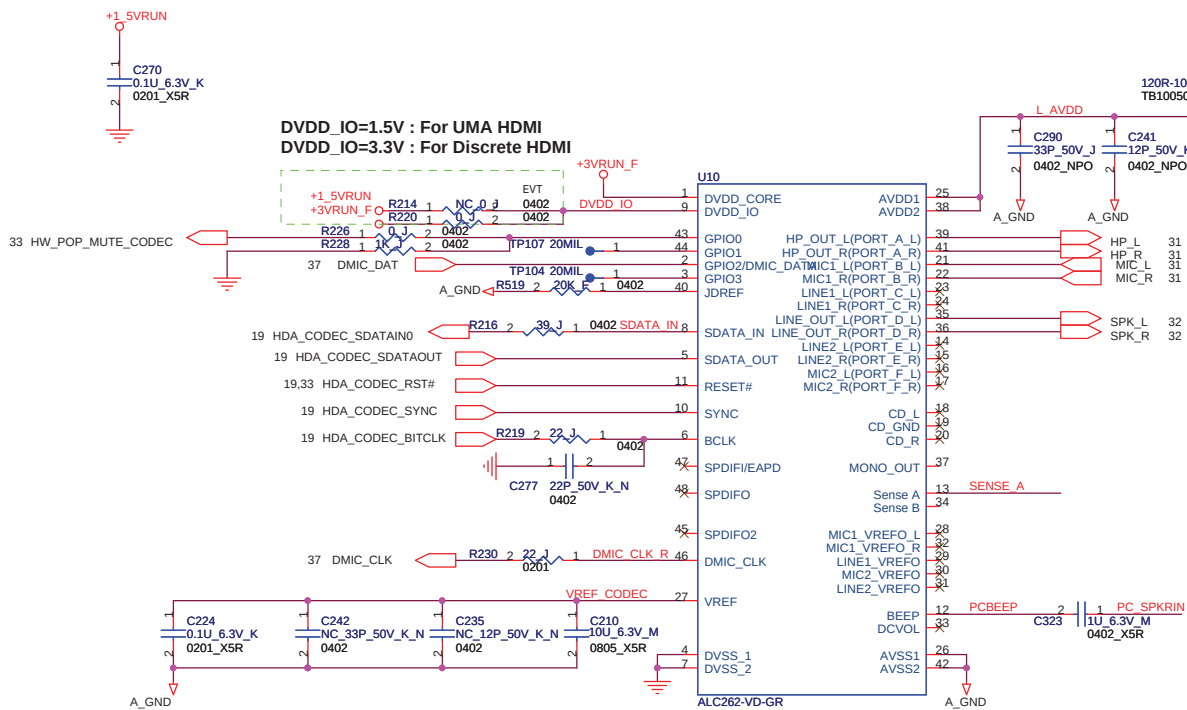
Express Card Slot.



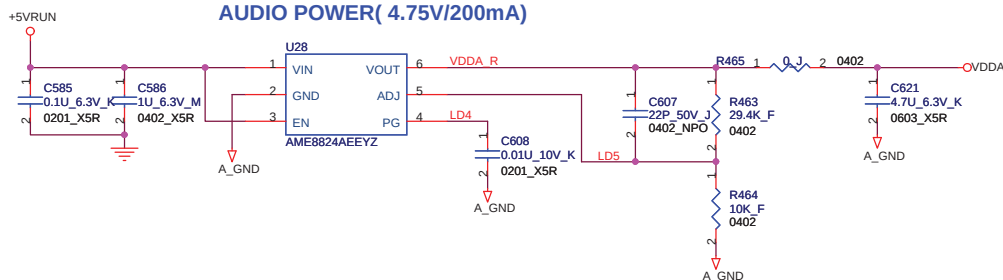


EVT2 11/6 Need to update new connector.

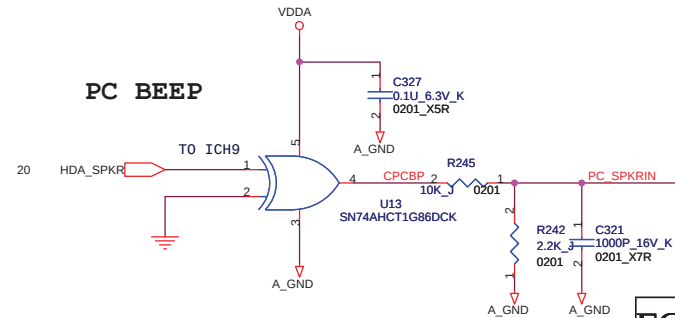


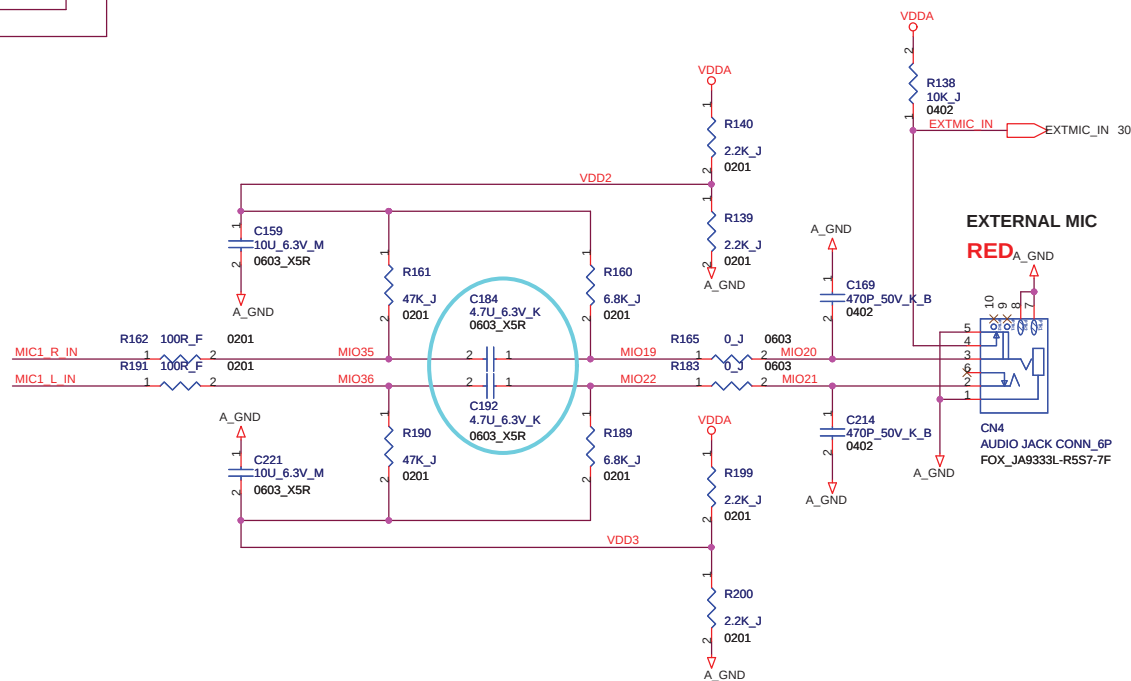
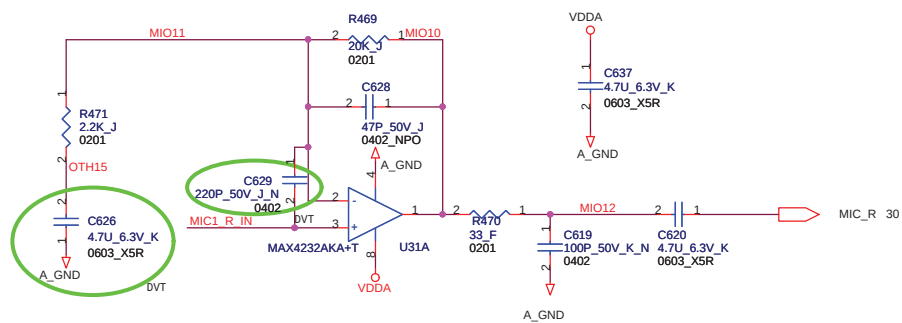
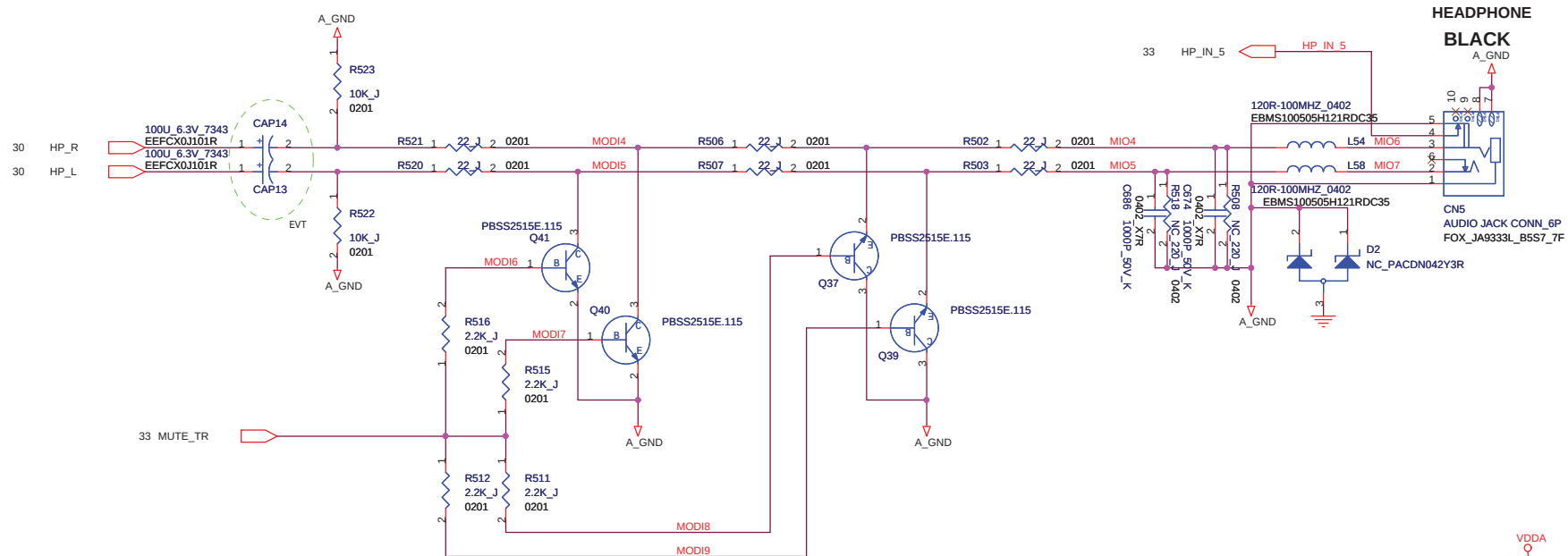


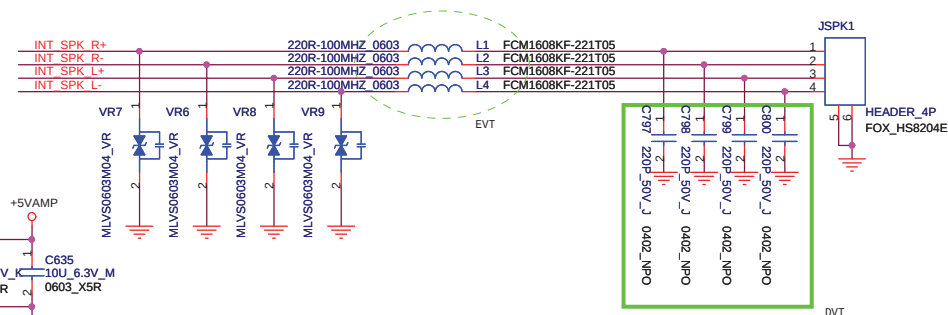
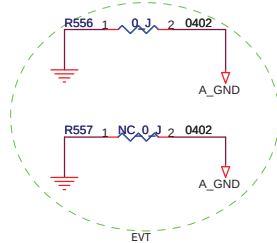
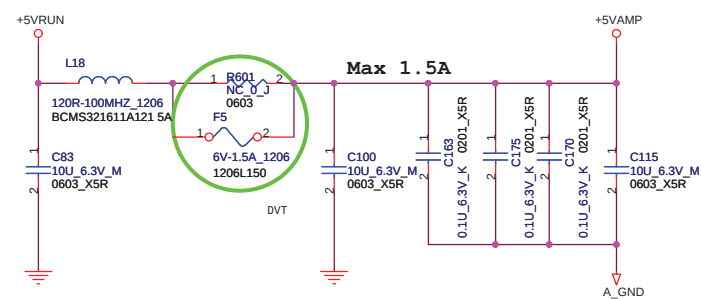
AUDIO POWER(4.75V/200mA)



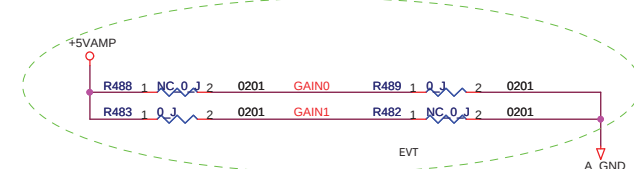
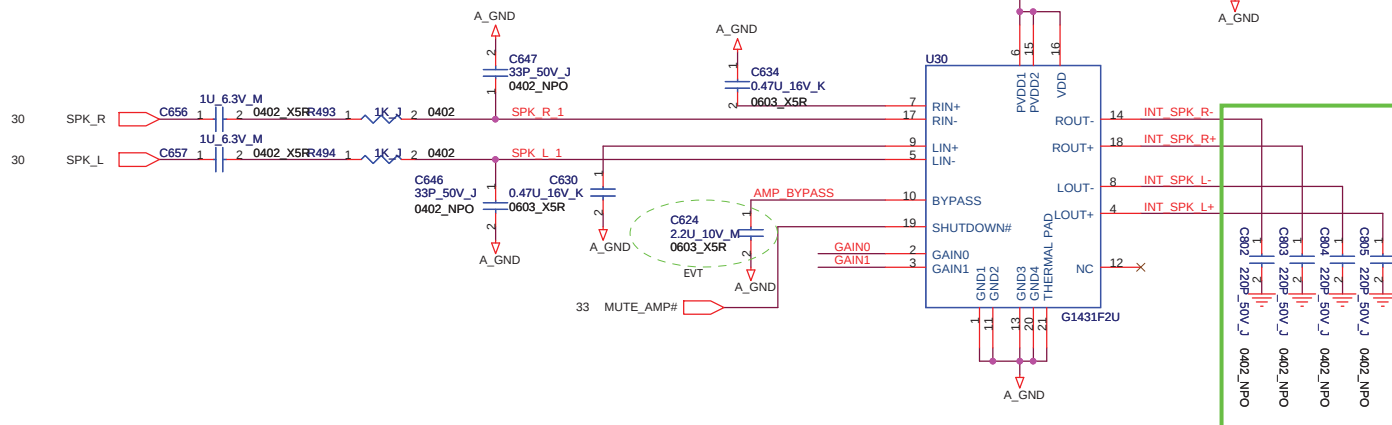
PC BEEP





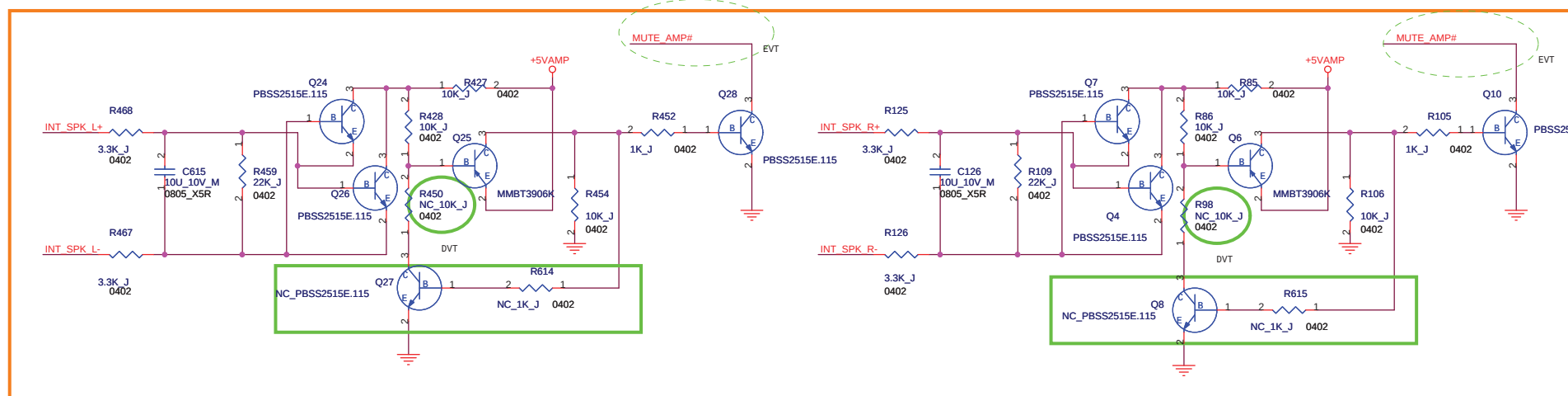


SPEAKER AMP

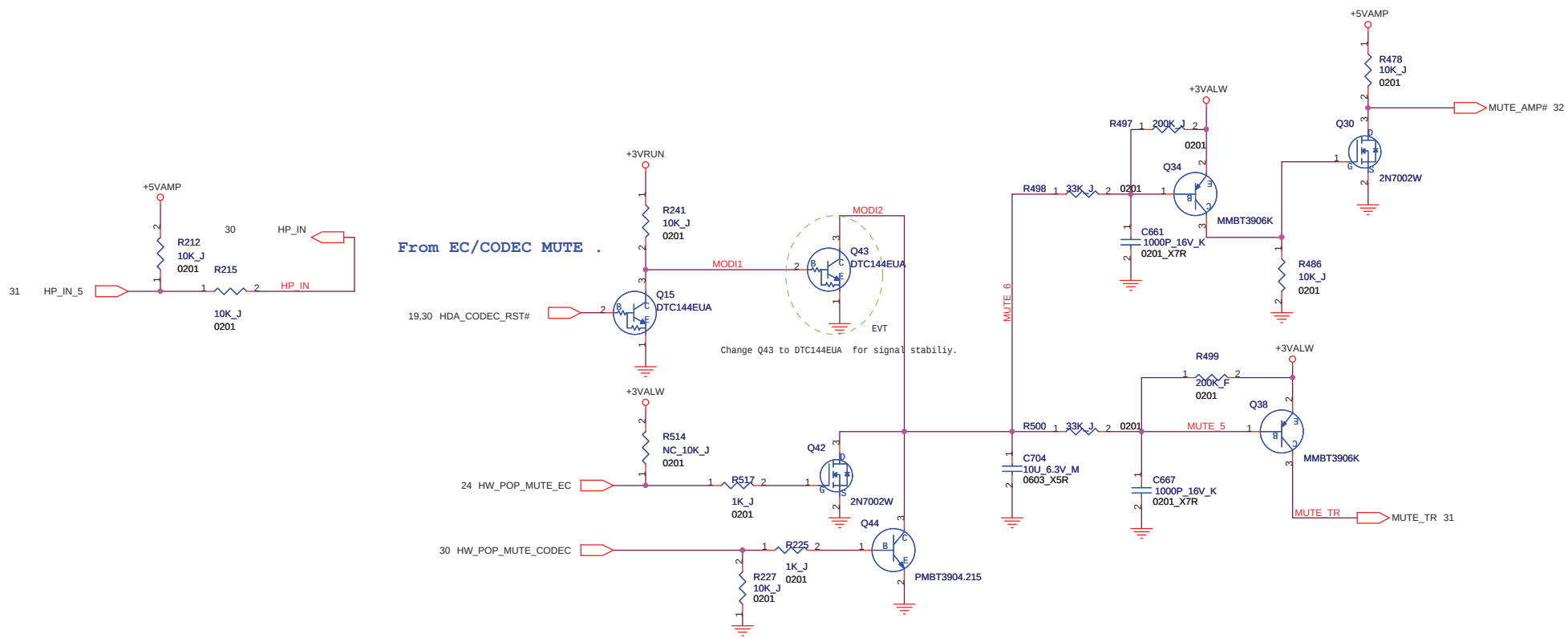


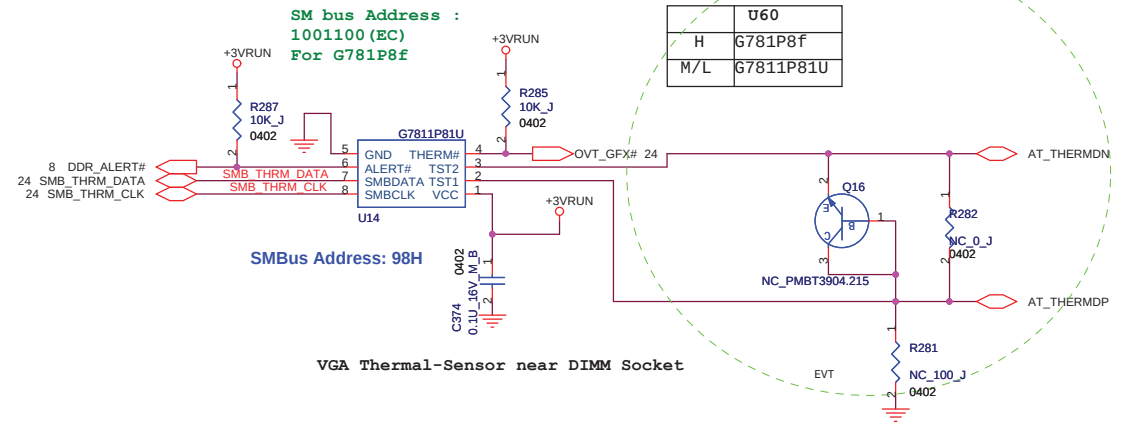
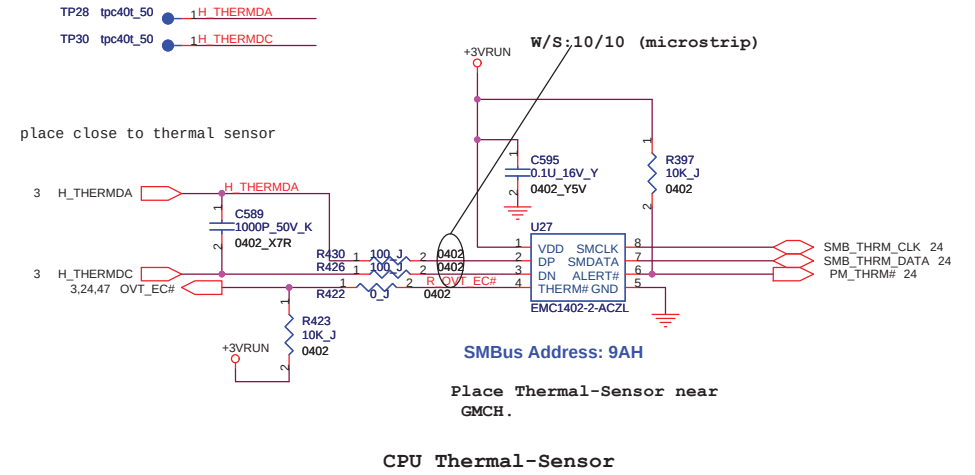
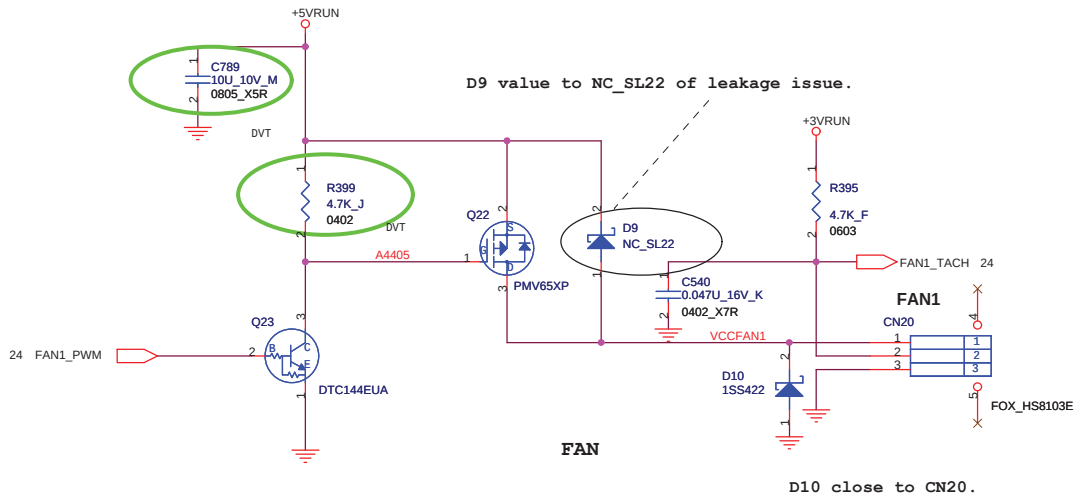
SPEAKER AMP

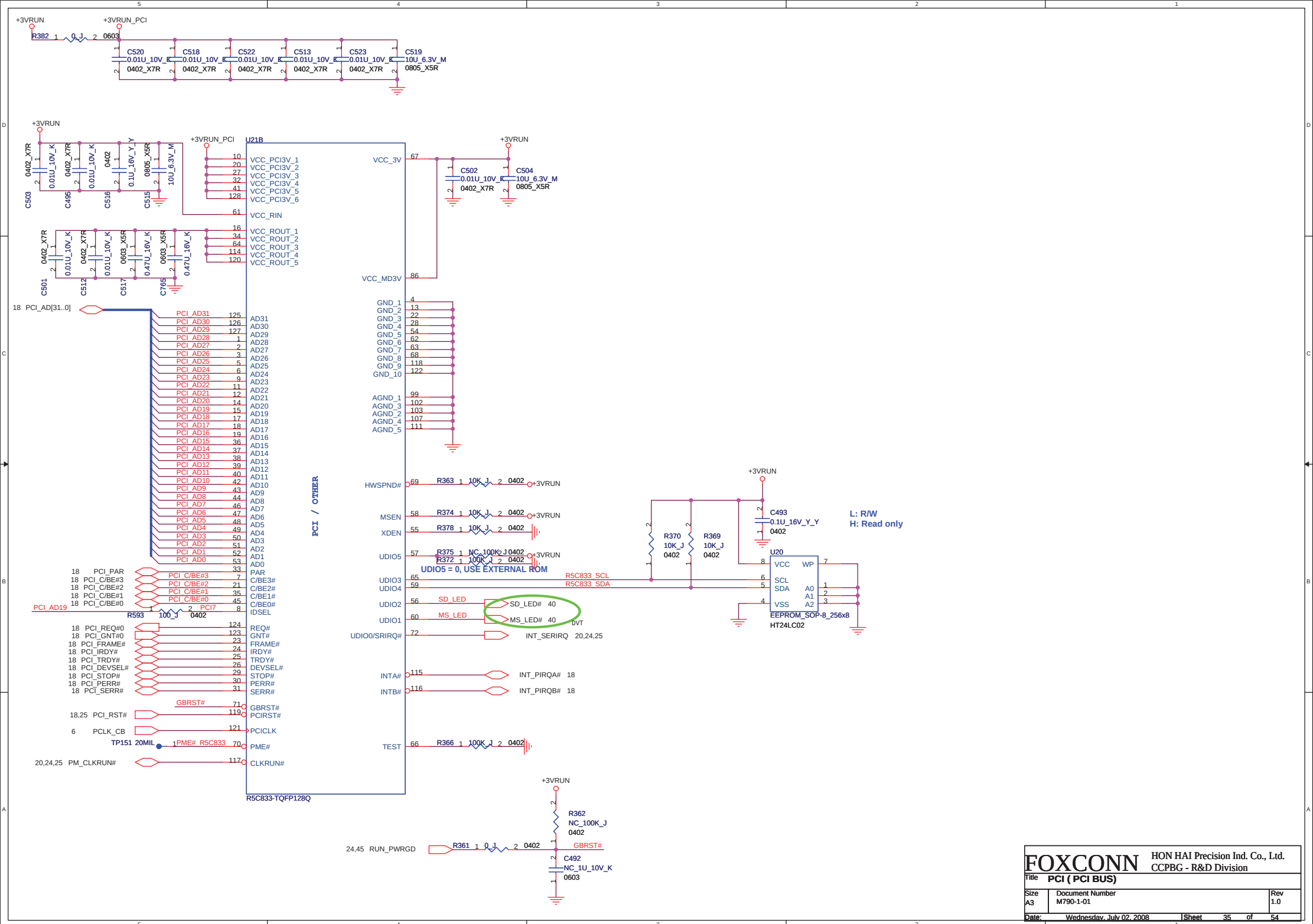
	GAIN0	GAIN1
6 dB	0	0
10 dB	0	1
15.6 dB	1	0
21.6 dB	1	1

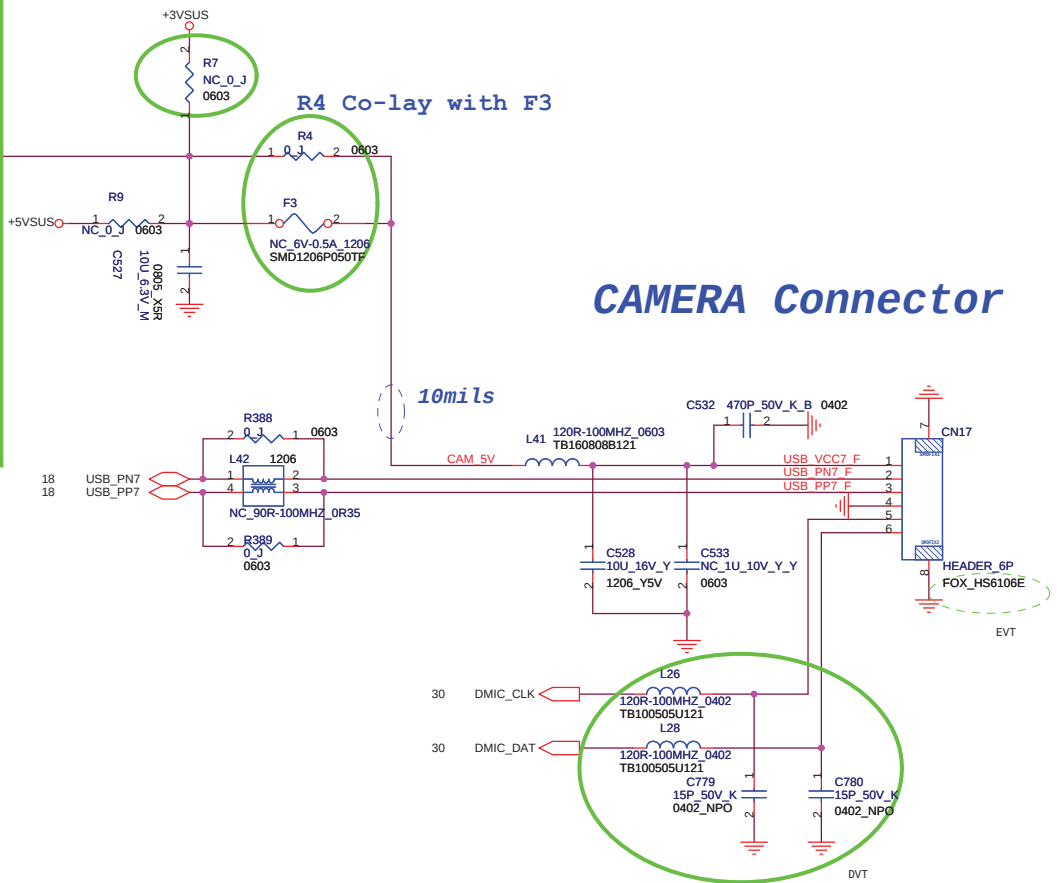
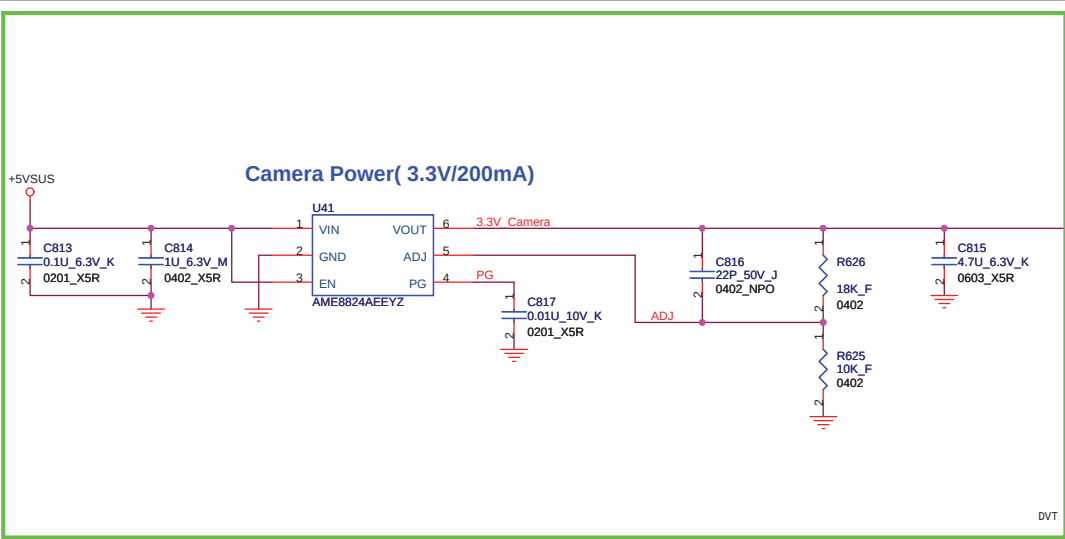


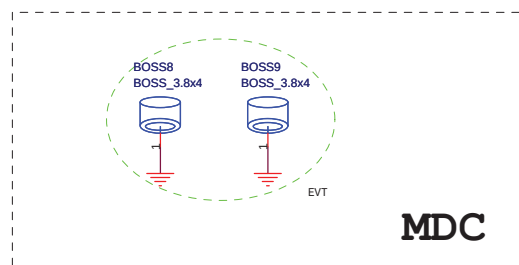
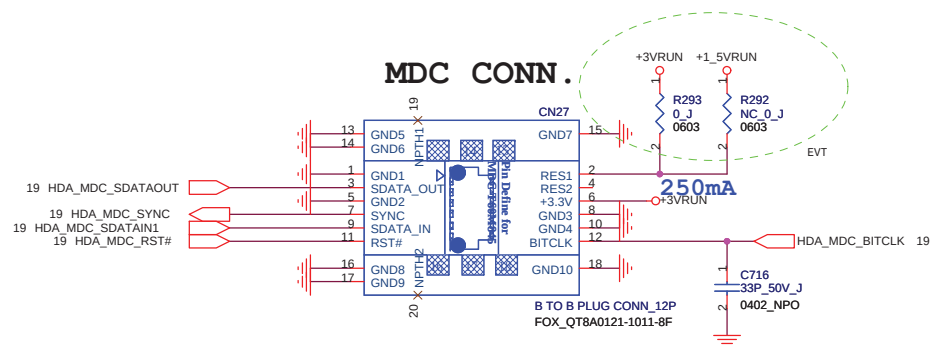
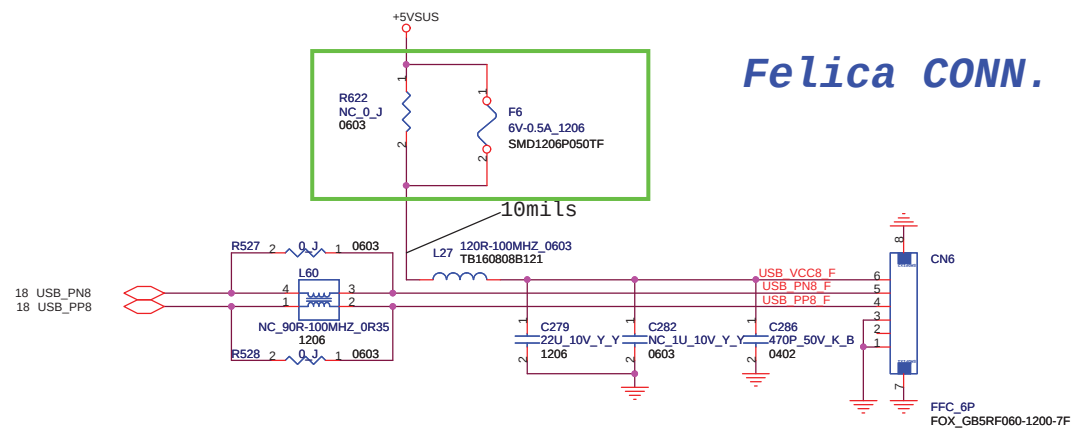
For Mor request,add the speaker cable short protection circuit

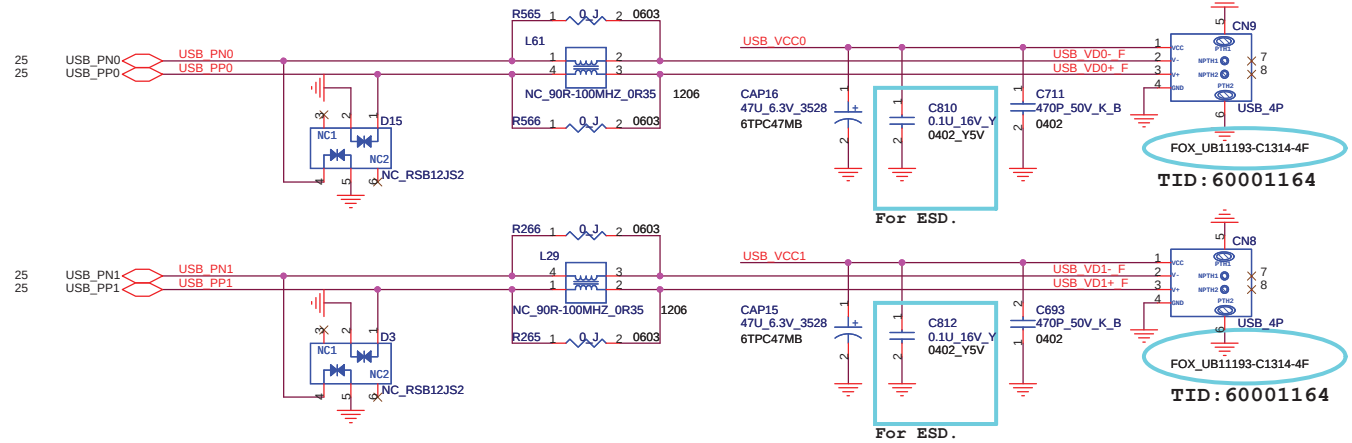
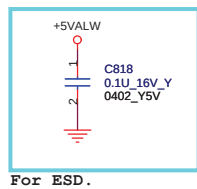
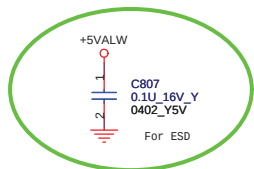
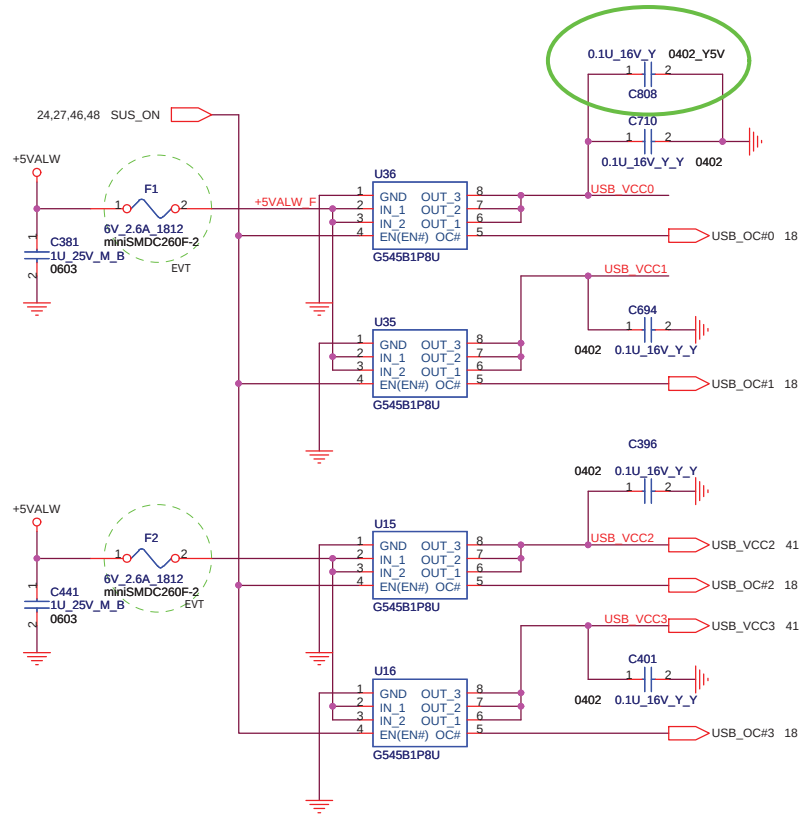


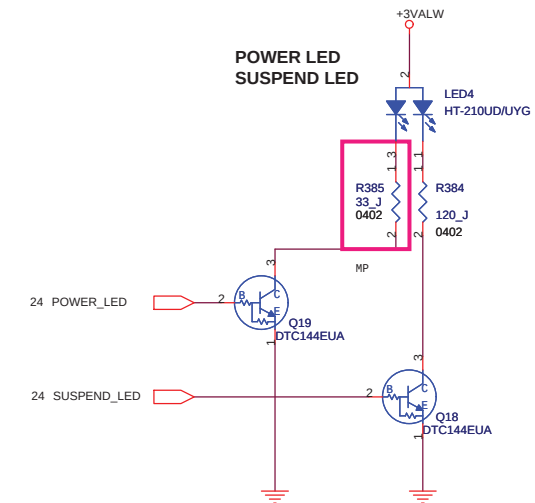
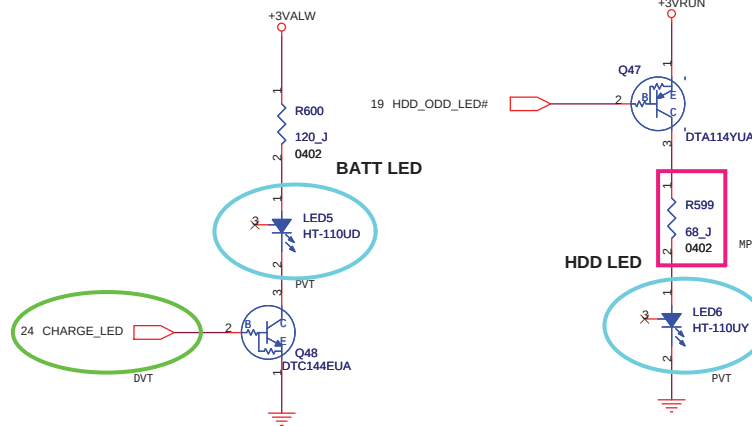
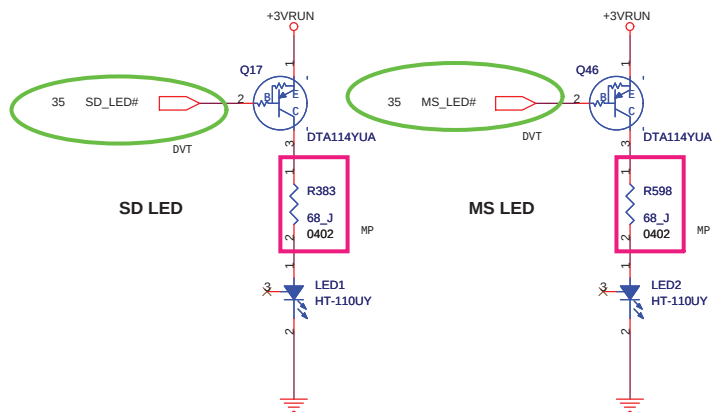




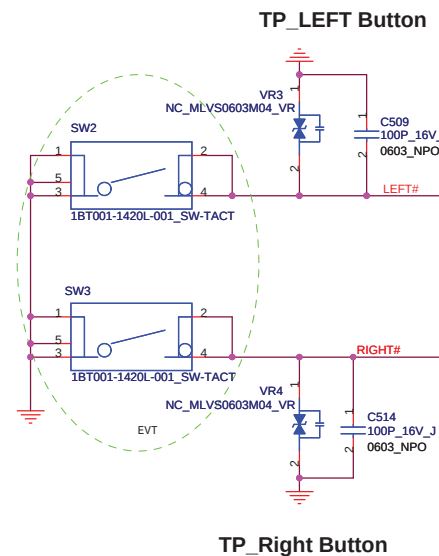
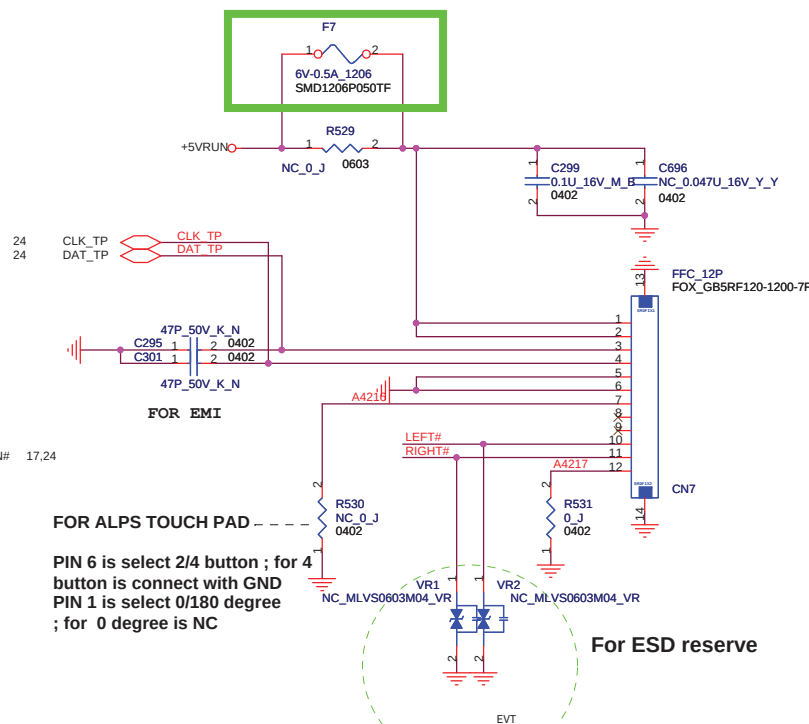
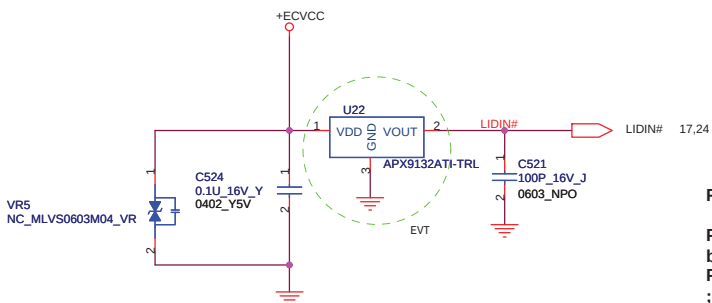




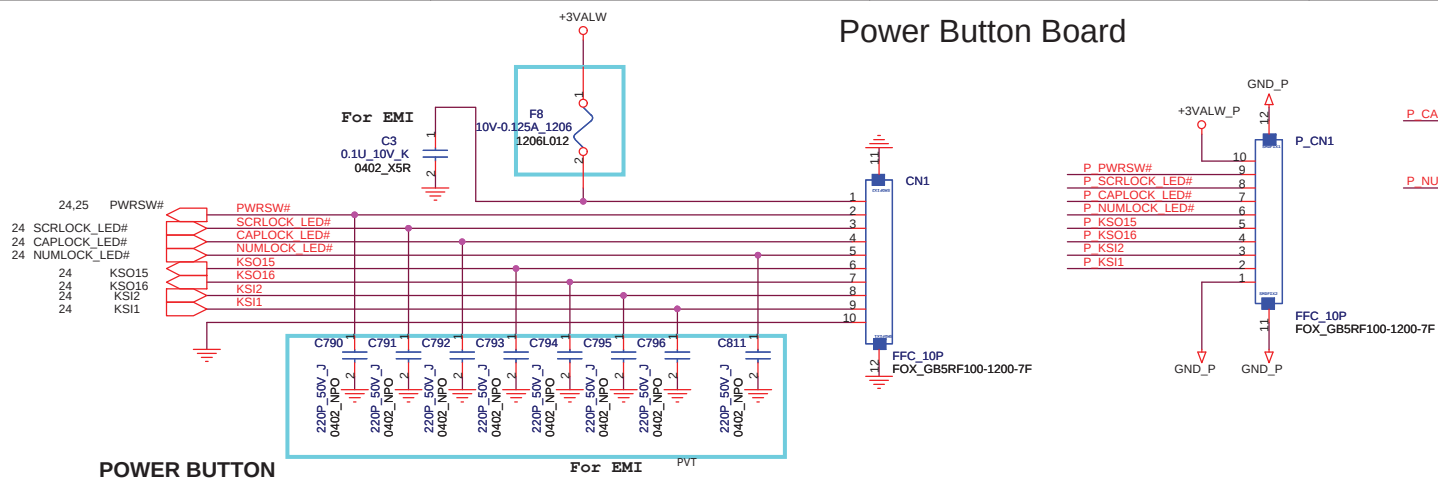




LID Switch



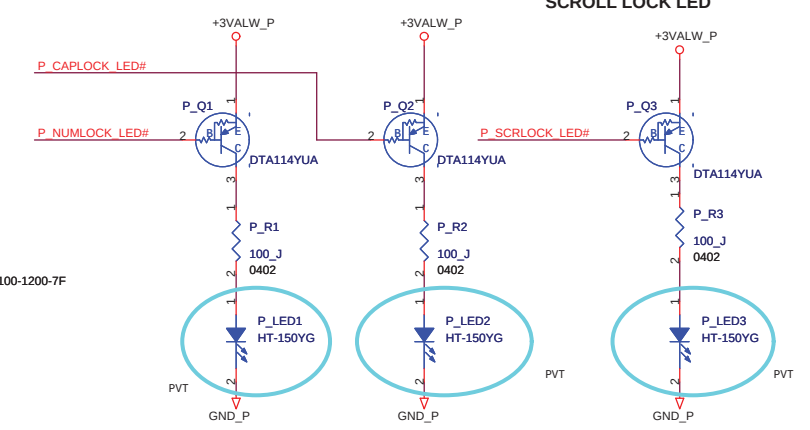
Power Button Board



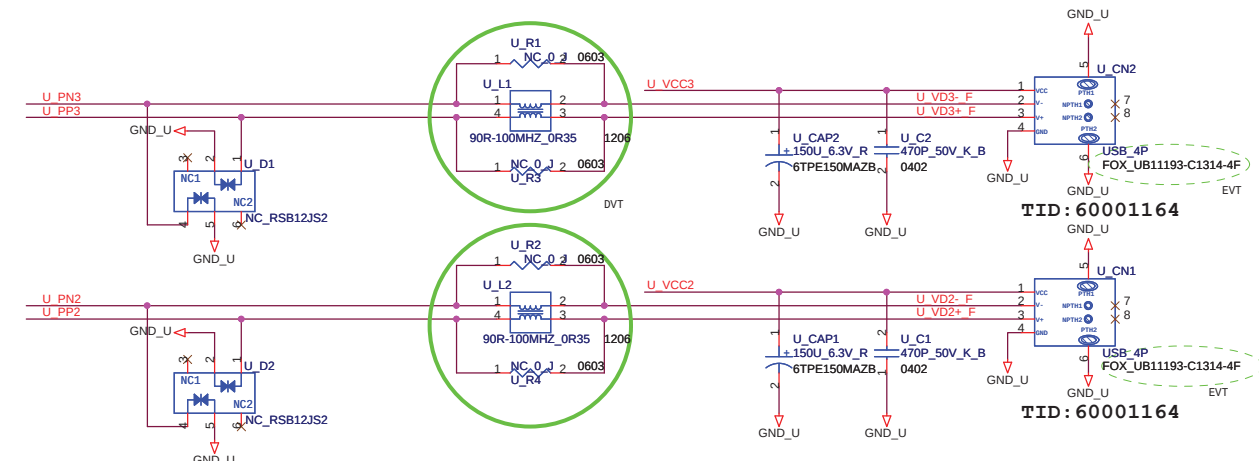
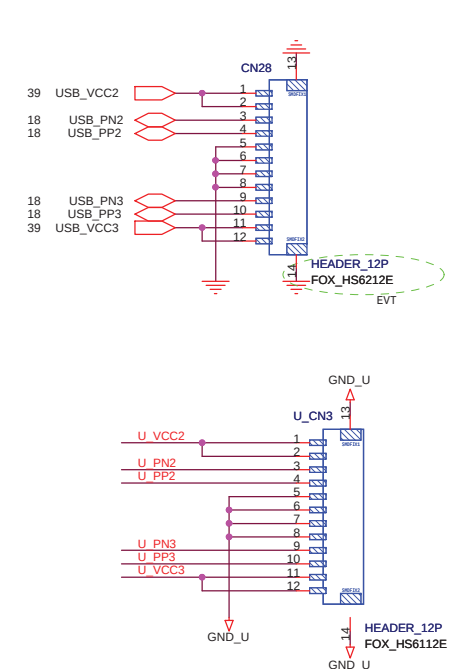
NUM LOCK LED

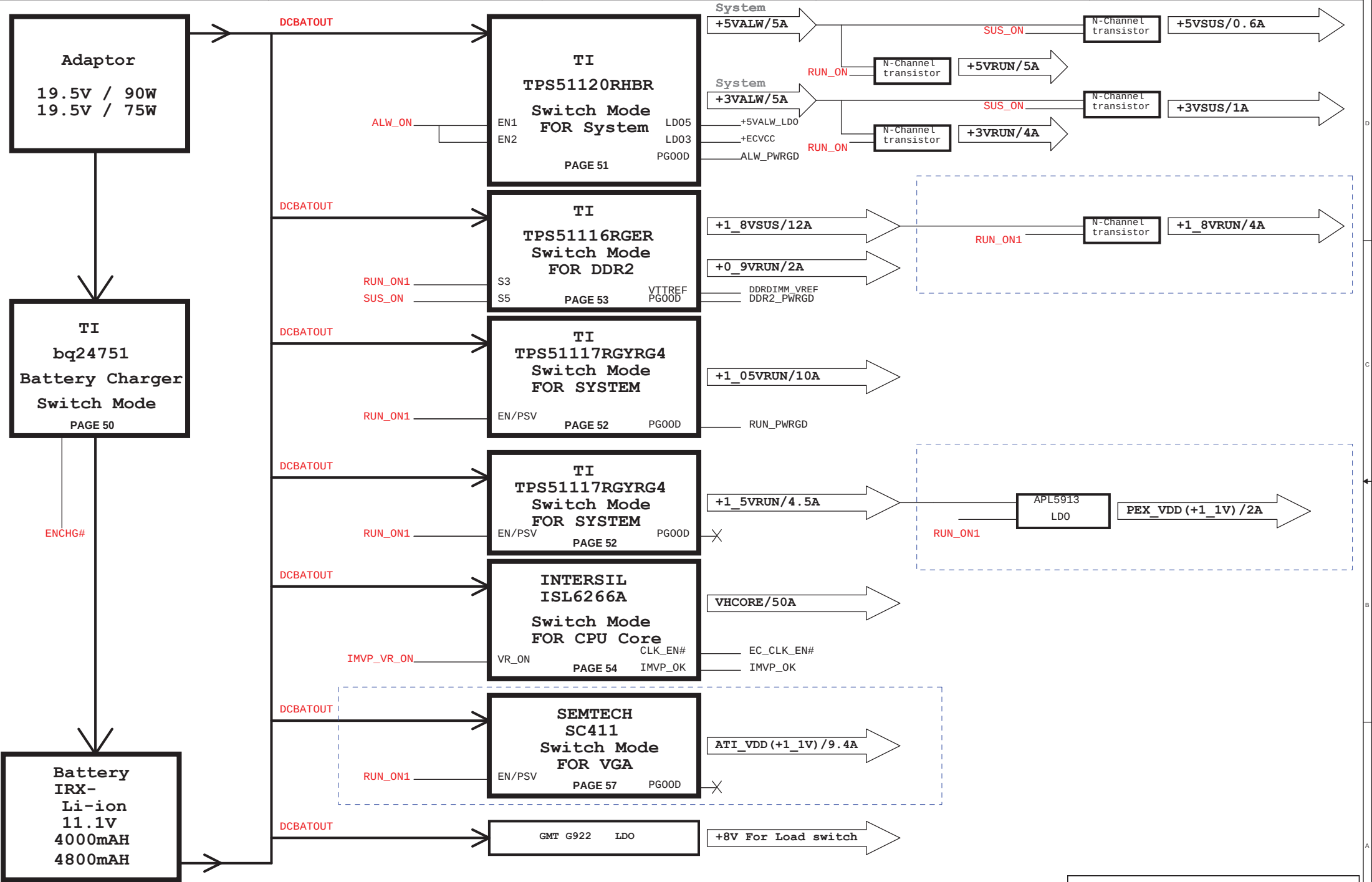
CAP LED

SCROLL LOCK LED



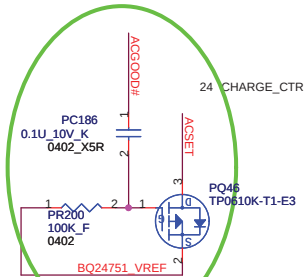
USB Board





charge current set table:

charge current	CHARGE_CTRL D/A pin voltage setting	Required charge current control
1.5A	3.06V	High current
0.8A	1.6V	Middle current
350mA	0.72V	Low current
0A	0V	charge OFF



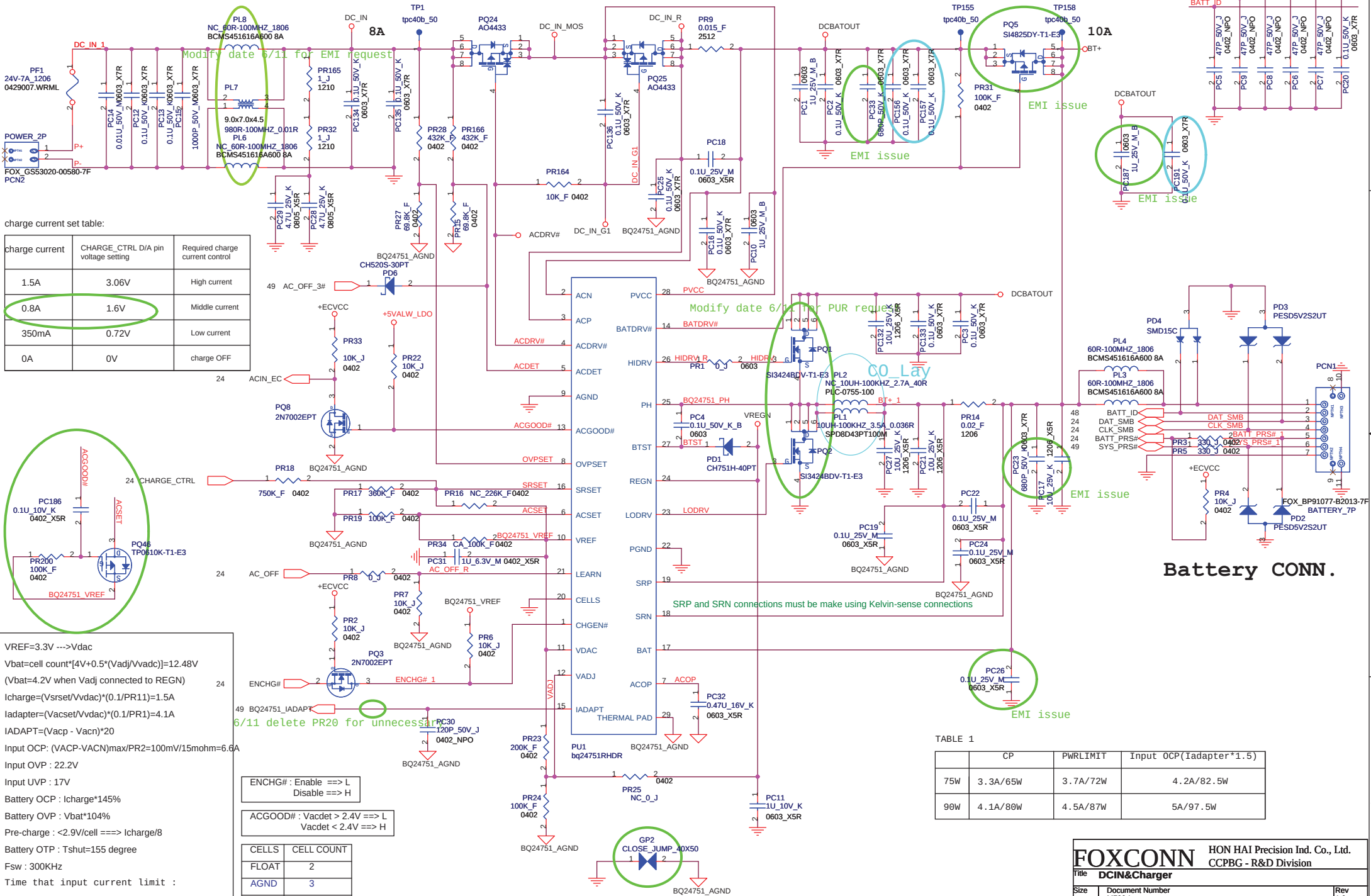
VREF=3.3V --->Vdac
 $V_{bat} = \text{cell count} * [4V + 0.5 * (V_{adj} / V_{vdc})] = 12.48V$
 $(V_{bat} = 4.2V \text{ when } V_{adj} \text{ connected to } REGN)$
 $I_{charge} = (V_{srset} / V_{vdc}) * (0.1 / PR11) = 1.5A$
 $I_{adapter} = (V_{acset} / V_{vdc}) * (0.1 / PR1) = 4.1A$
 $I_{ADAPT} = (V_{acp} - V_{vacn}) * 20$
 Input OCP: $(V_{acp} - V_{vacn})_{max} / PR2 = 100mV / 15mohm = 6.6A$
 Input OVP: 22.2V
 Input UVP: 17V
 Battery OCP: $I_{charge} * 145\%$
 Battery OVP: $V_{bat} * 104\%$
 Pre-charge: $< 2.9V / \text{cell} ==> I_{charge} / 8$
 Battery OTP: $T_{shut} = 155 \text{ degree}$
 $F_{sw} = 300KHz$
 Time that input current limit :
 $t = (C_{acop} * 2) / (18uA * V * (PVCC - AC)) = 0.48s$

ENCHG# : Enable ==> L
 Disable ==> H

ACGOOD# : $V_{acdet} > 2.4V ==> L$
 $V_{acdet} < 2.4V ==> H$

CELLS	CELL COUNT
FLOAT	2
AGND	3
VREF	4

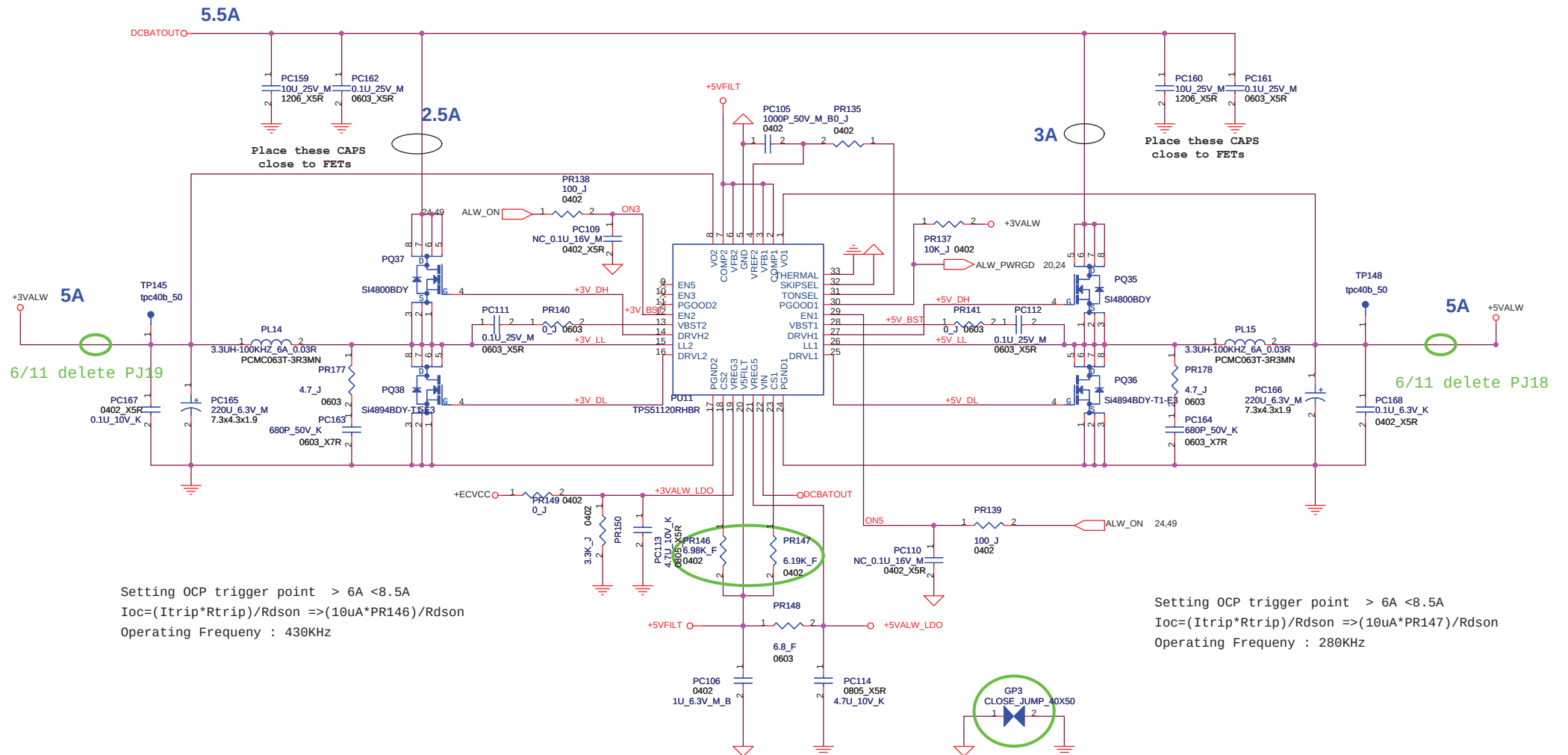
ACP and ACN connections must be make using Kelvin-sense connections

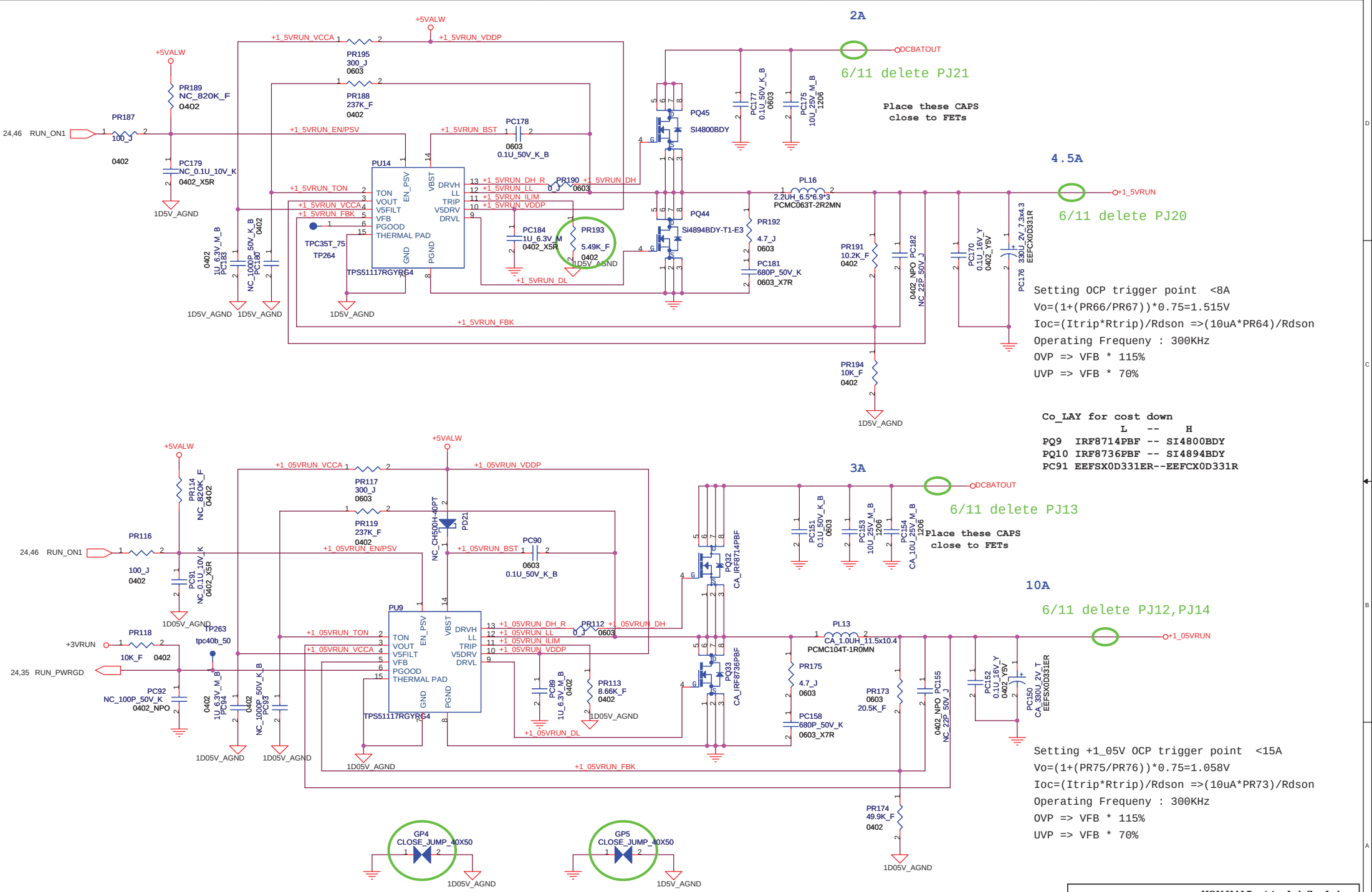


Battery CONN.

TABLE 1

	CP	PWRLIMIT	Input OCP(Iadapter*1.5)
75W	3.3A/65W	3.7A/72W	4.2A/82.5W
90W	4.1A/80W	4.5A/87W	5A/97.5W

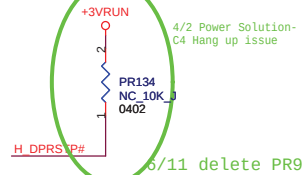
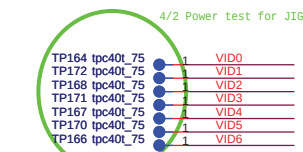




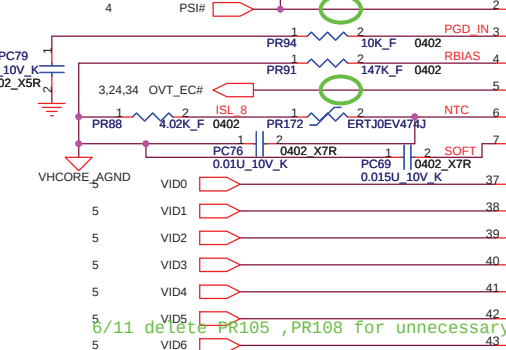
Setting OCP trigger point <8A
 $V_o = (1 + (PR66/PR67)) * 0.75 = 1.515V$
 $I_{oc} = (I_{trip} * R_{trip}) / R_{dson} \Rightarrow (10\mu A * PR64) / R_{dson}$
Operating Frequency : 300KHz
OVP $\Rightarrow V_{FB} * 115\%$
UVP $\Rightarrow V_{FB} * 70\%$

Co_LAY for cost down
L -- H
PQ9 IRF8714PBF -- SI4800BDY
PQ10 IRF8736PBF -- SI4894BDY
PC91 EEFSX0D331ER--EEFCX0D331R

Setting +1_05V OCP trigger point <15A
 $V_o = (1 + (PR75/PR76)) * 0.75 = 1.058V$
 $I_{oc} = (I_{trip} * R_{trip}) / R_{dson} \Rightarrow (10\mu A * PR73) / R_{dson}$
Operating Frequency : 300KHz
OVP $\Rightarrow V_{FB} * 115\%$
UVP $\Rightarrow V_{FB} * 70\%$

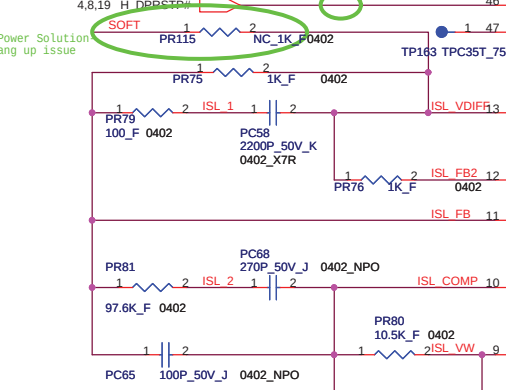


6/11 delete PR97 ,PR89 for unnecessary



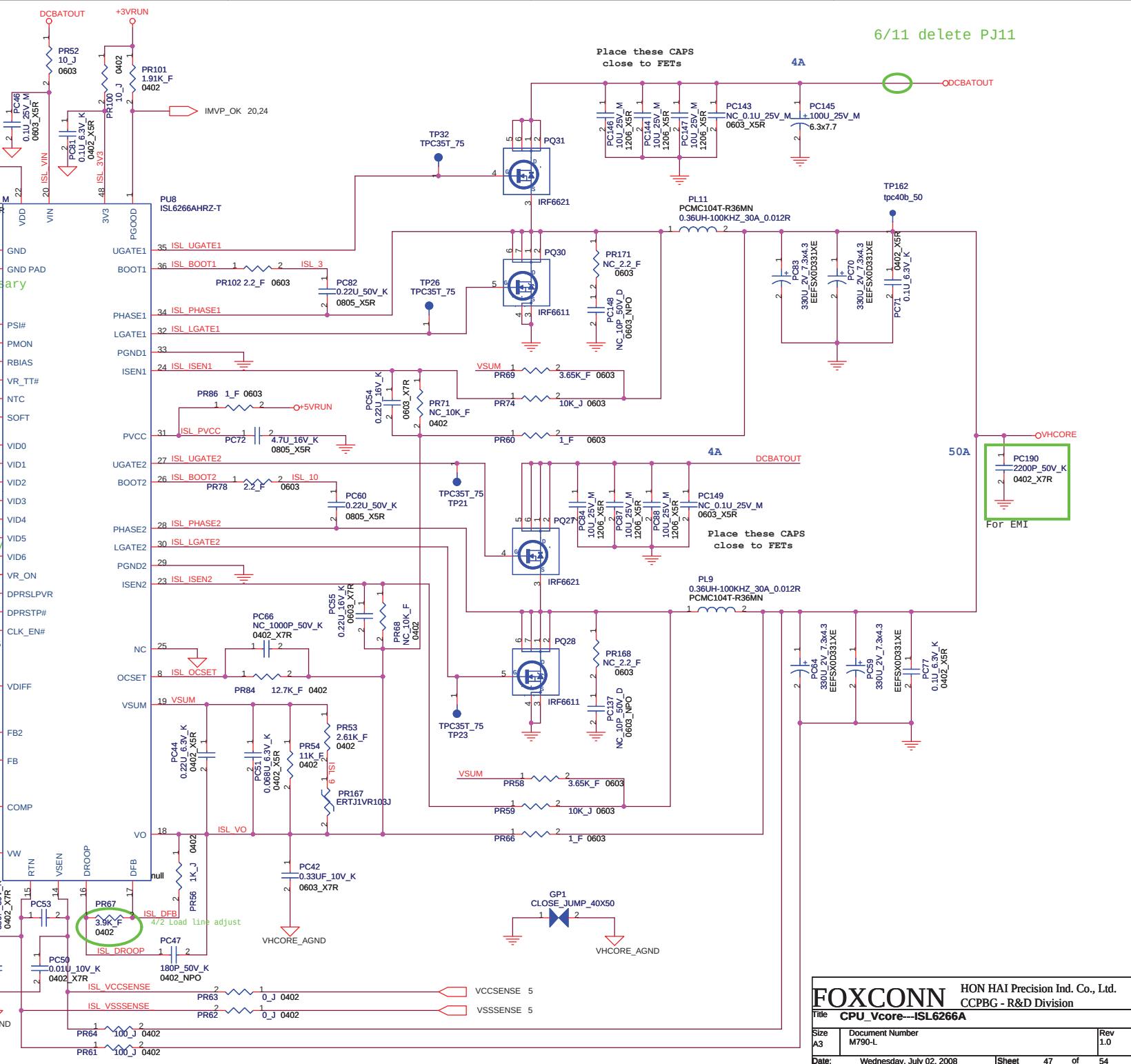
6/11 delete PR105 ,PR108 for unnecessary

4/2 Power Solution C4 Hang up issue



OCP Setting

Switching Frequency = 300KHz
 $R_{fset}[k\Omega] = (P[us] - 0.29) * 2.33, F=1/P$
 OCP point = 63.3A
 OCP point => $I_{oc} = (R_{oc} * 10uA) / R_{droop}, R_{droop} = 2.1mV$
 Load line adjust => PR210(greaten
 => load line deepen)



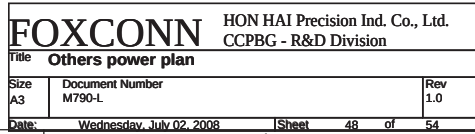
6/11 delete PJ11

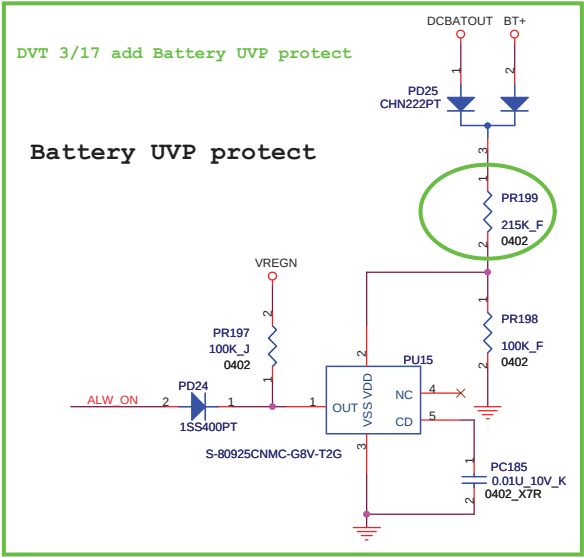
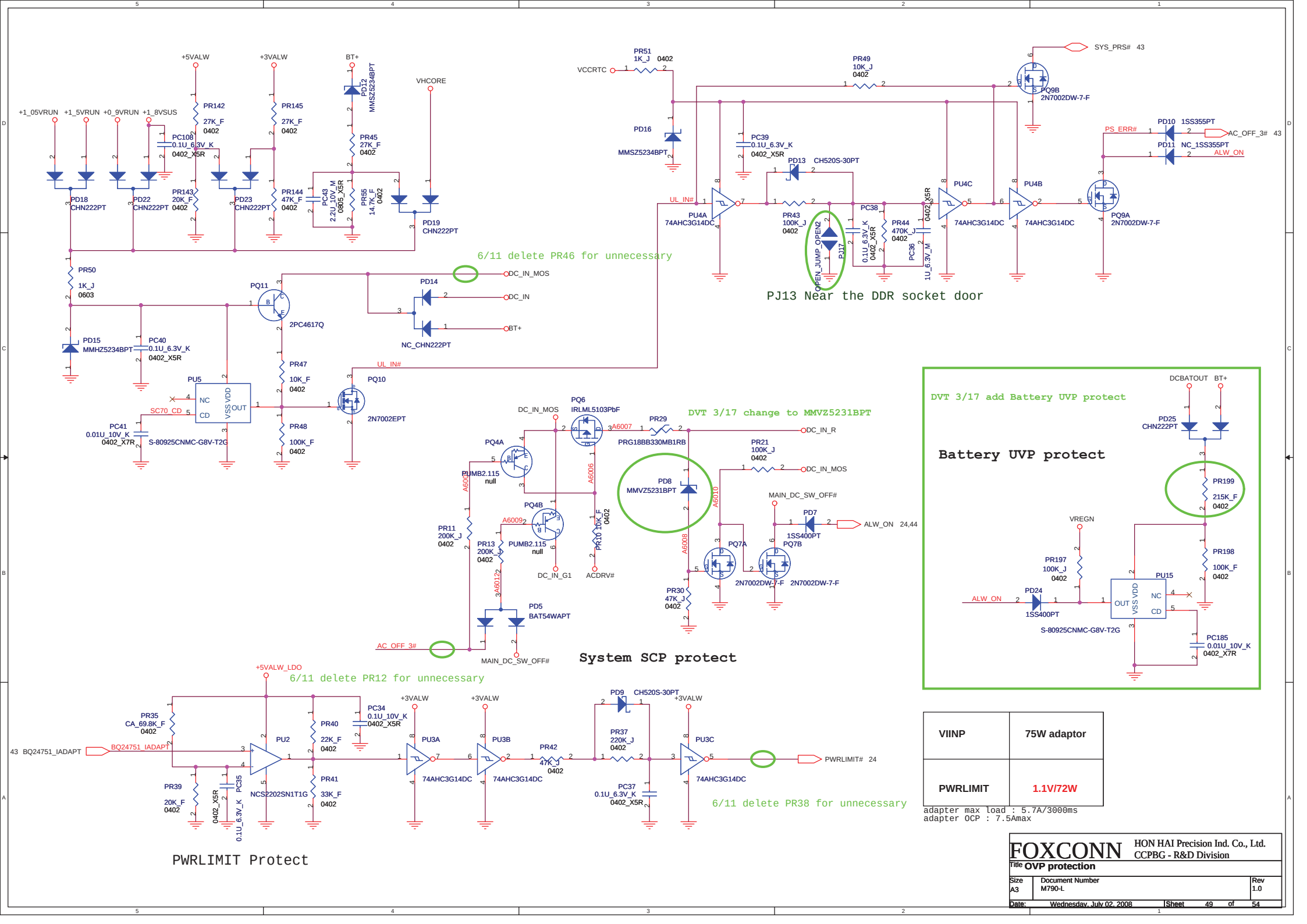
Place these CAPS close to FETs

4A

50A

For EMI

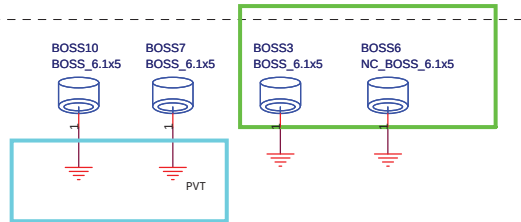




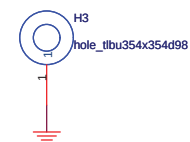
System SCP protect

VIINP	75W adaptor
PWRLIMIT	1.1V/72W

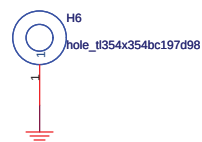
adaptor max load : 5.7A/3000ms
adaptor OCP : 7.5Amax



Thermal Module



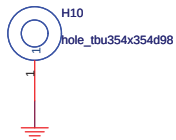
Near CRT



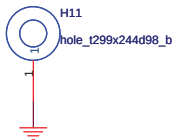
Near AUDIO



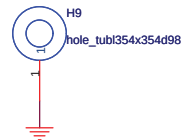
Near USB



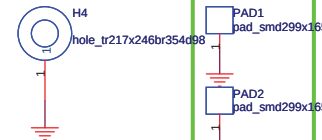
Near Express card



Near SD card



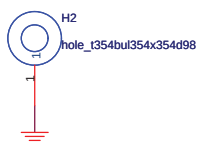
Near MS card



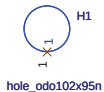
Near ODD



Near DC-IN



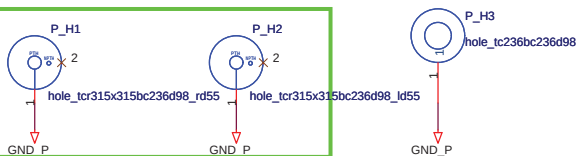
Near Robson



Near HDD

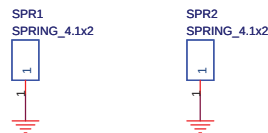


CPU

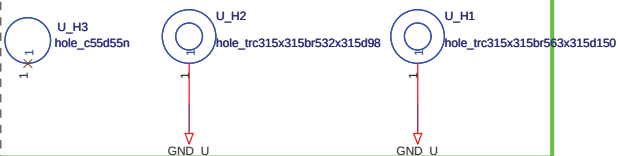


Power board

Finger



DVT



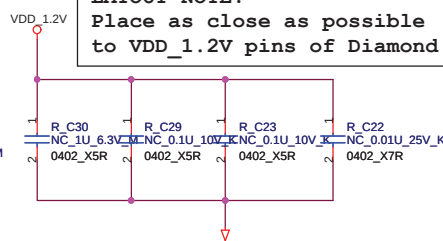
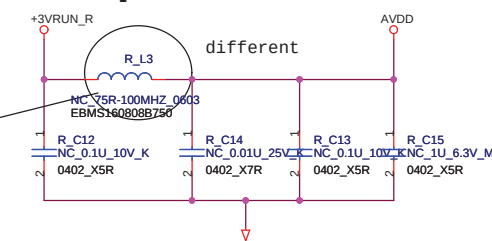
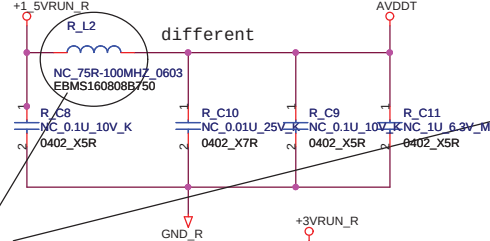
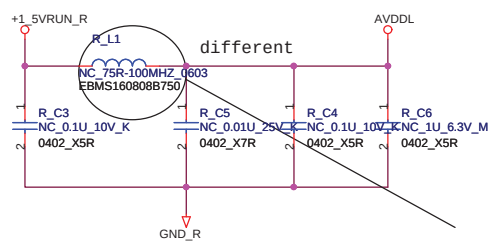
USB board

LAYOUT NOTE:
Place as close as possible
to AVDDL pins of Diamond Lake

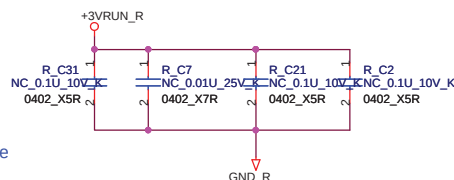
LAYOUT NOTE:
Place as close as possible
to AVDDT pins of Diamond Lake

LAYOUT NOTE:
Place as close as possible
to AVDD pins of Diamond Lake

LAYOUT NOTE:
Place as close as possible
to VDD 1.2V pins of Diamond Lake



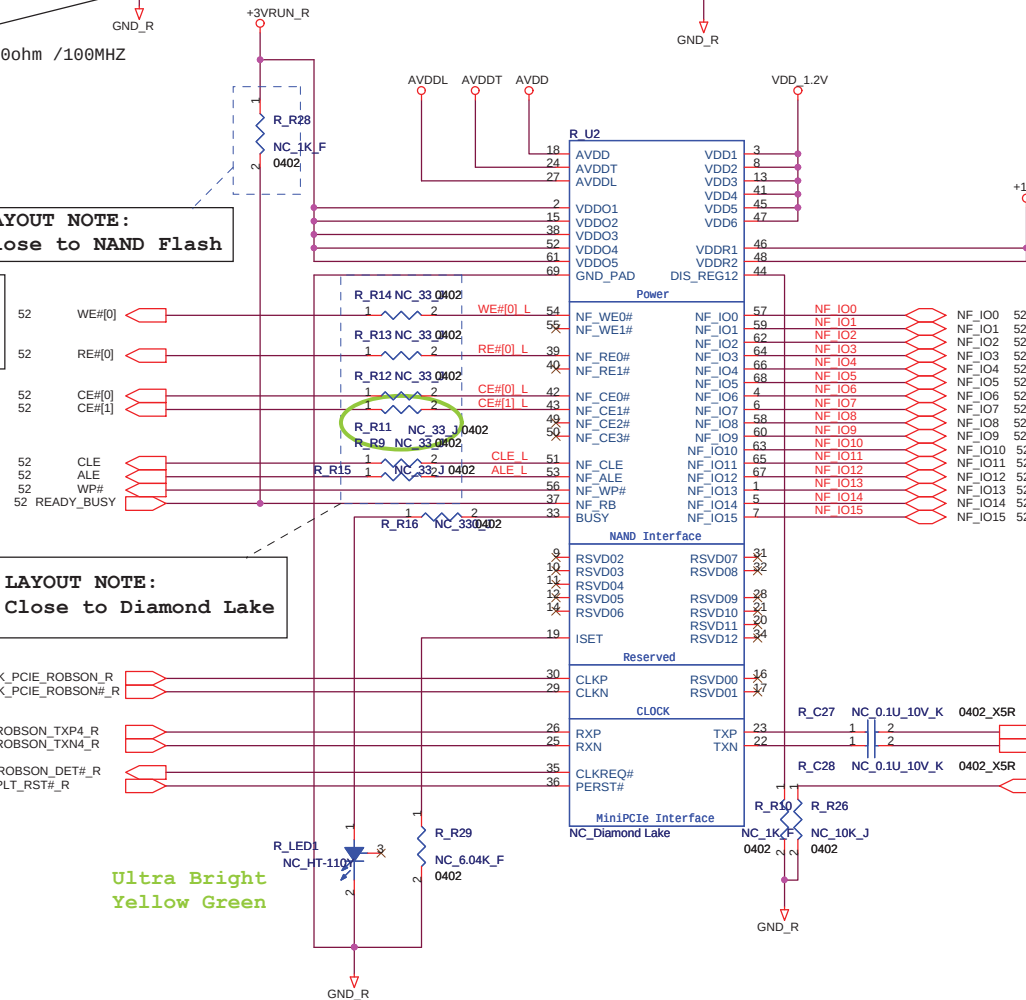
Intel sch use 70ohm /100MHZ



change

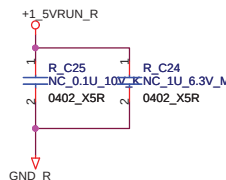
LAYOUT NOTE:
Place as close as possible
to +3VRUN pins of Diamond Lake

LAYOUT NOTE:
Close to NAND Flash

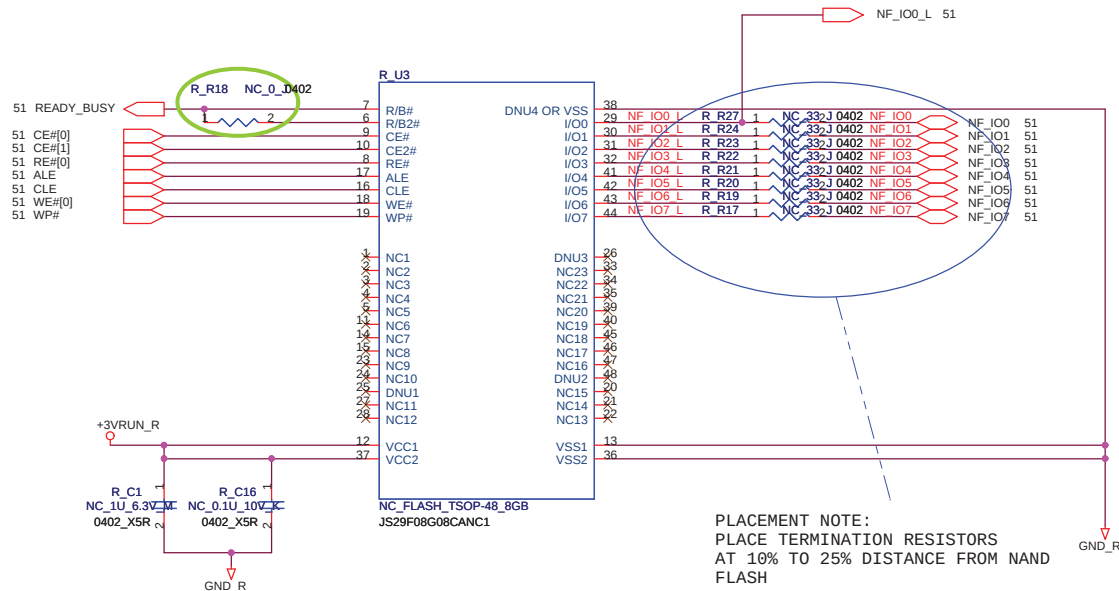


LAYOUT NOTE:
Close to Diamond Lake

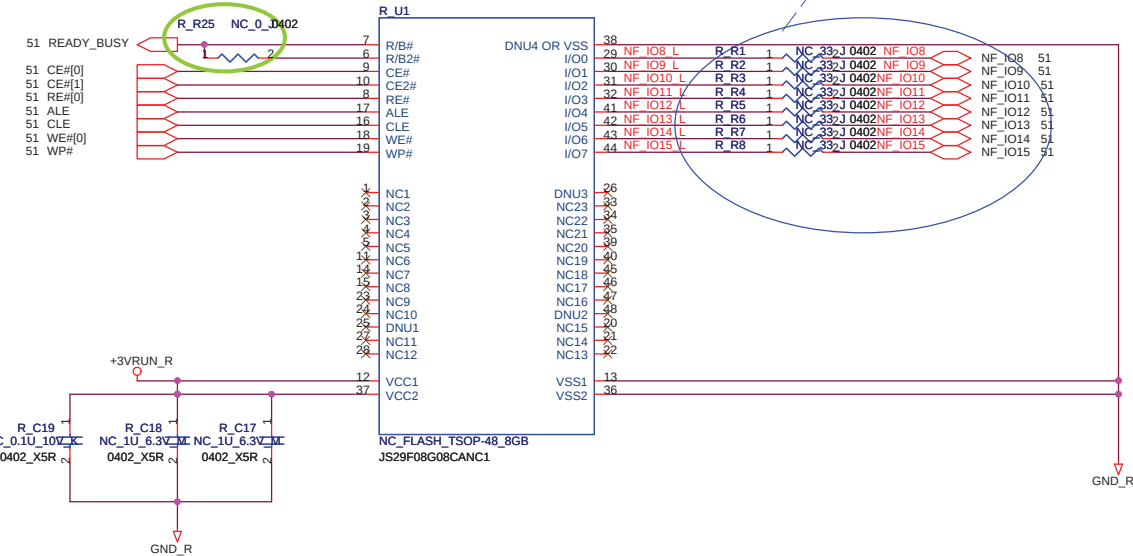
LAYOUT NOTE:
Place as close as possible
to VDDR1 and VDDR2 pins
of Diamond Lake



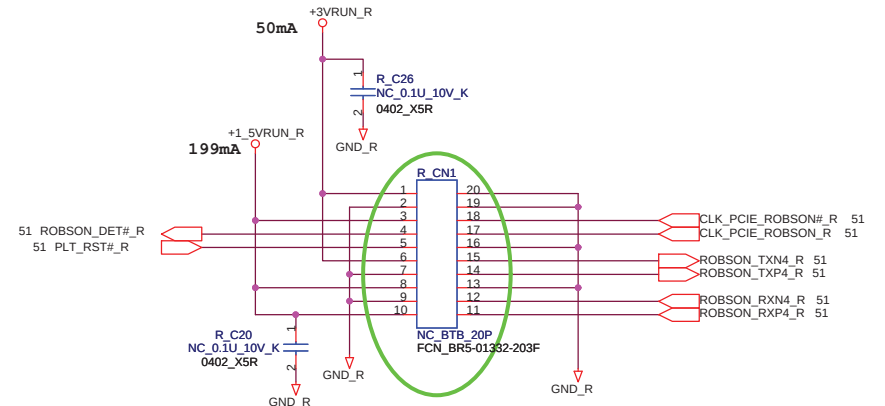
Ultra Bright
Yellow Green



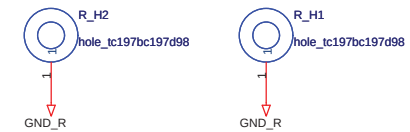
LAYOUT NOTE:
Place as close as possible to +3VRUN pins of R_U3



LAYOUT NOTE:
Place as close as possible to +3VRUN pins of R_U1



ROBSON Board CONN



M790 EVT

(2008/01/23)
Update 8Layer H/L versio to 6Layer L version.

(2008/01/24)
Page 6. Change Clock to B version.
Page 25. Change SPI rom to new version.
Page 36. Change L62,delete L63 same as M760.

(2008/01/28)
Page 14/15. Add C767~C778 for EMI reserve.
Page 19. Add R610 damping resistor for adjustment for MOR request.
Page 20. Change GPIO18,20 to GPIO36,37 and delete R269,R270.
Page 23. Change D13 to mount.
Page 24. Change RP39,RP41 to +3VALW.Add D17,D18 for EC leakage current issue.
Page 29. Add R602,R603 damping resistor for adjustment for MOR request.
Page 32. Add R601 for MOR request.
Page 36. Add R604,R605 damping resistor for adjustment for MOR request.
Page 37. Add R611,R612,C779,C780 for EMI reserve.
Page 48. Change PQ40 from SI2304BDS-T1-E3 to SI2316DS-T1-E3 and Change PQ19 from IRF8714PBF to FDS8880_NL for MOR request.

(2008/01/29)
Page 50. Add H13~H16,P_H3.

(2008/01/30)
Page 50. Update H4,U_H1,U_H2.

(2008/01/31)
Page 20. Not AMT support,so delete R556, R557 and C722.
Page 32. Change GP2,GP3 to R556,R557.
Page 33. Change R486 connect to D_GND.
Page 50. Add Boss10.

(2008/02/01)
Page 49. Change PJ17 from PD13 pin1 to pin2.

(2008/02/02)
Page 17/24. Add FAN error detect function in panel switch pin4.
Page 32. Change C624 to 2.2uF for pop noise issue.

(2008/02/14)
Update some error discription for MOR request.

(2008/02/18)
Page 32. Mount Audio cable short components for EVT test.

(2008/02/20)
Page 32. Change U30 from TI(TPA6017) to GMT(G1431F2U) for pop noise issue.

(2008/02/21)
Page 17. Update Panel ID table.
Page 24. Update R447 CA to Mount,R437 Mount to CA.
Page 46. Add PJ10.
Page 14/15.Add J2/J3 for EMI request.
Page 6. Add reserverve C781,C782,C783 for EMI request.
Page 29. Add reserverve C784,C785 for EMI request.

(2008/02/22)
Page 14/15.Add J4/J5 for EMI request.
Page 6. Add reserverve C786,C787 for EMI request.

(2008/02/26)
Page 5. Change C76 from 6.3V to 10V for PUR request.
Page 11. Change C201,C225,C679,C681,C143,C168,C596,C601,C605 from 10V to 16V for PUR request.
Page 18/29. Change C32,C35,C449,C450,C725,C726,C727,C728,C729,C730 to 0.1uF,6.3V,10% for PUR request.
Page 31. Change R202 for PUR request.
Page 31. Change Q37,Q39,Q40,Q41 to PBSS2515E.115 for PUR request.
Page 32/33. Change Q6,Q25,Q34,Q38 to MMBT3906K for PUR request.
Page 33. Change Q33/Q44 to MMBT3904 for PUR request.

M790 DVT

(2008/02/28)
Page 33. Change Q33/Q44 to PMBT3904.215 for PUR request.

(2008/03/03)
Page 52. Change R_U1,R_U3 to 8Gbit size and change R_R11,R_R18,R_R25 to mount.

(2008/03/05)
Page 24. Mirror CN3 for Int. keyboard issue.

(2008/03/06)
Page 38. Mirror CN6 for easy A'ssy.
Page 44. Change PR146 to 6.8K,PR147 to 5.49K for OCP current adjust.
Page 45. Change PR193 to 5.49K for OCP current adjust.

(2008/03/24)
For PUR request change C624 2.2uF(1.25mm) to (0.8mm),C510/PC42 0.33uF(X5R) to (X7R).
Page 38. SWAP L60 for CN6 mirror issue.
Page 24/40. Change CHARGE_LED# low enable to H enabe same as M750/M760.

(2008/03/28)
Page 24. Add C722(1000pF) for FAN speed stable.

(2008/04/02)
Page 28/51/52. Change Robson function to no mount.

(2008/04/07)
Page 23. Del PJ4 Change PJ3 type for JIG.
Page 43. Add for charger ocp improve.
Page 43~46,48. A_GND and P_GND change to GP2~6.
Page 47. Add PR134,PR115 for Power Solution- C4 Hang up issue.
Page 47. tpc40b_50 Change to tpc40t_75 power point part for JIG.
Page 49. Add Battery UVP protect for power issue.

(2008/04/08)
Page 29. Add C733,R269,R270/R616(no mount),Change R44 to 4.99Kohm and NC CTRL_1D8 circuit for 88E8057.
Page 32. Change R98,R450,Q8,Q27 to NC and Add R614,R615 no mount for speaker cable short protection circuit.
Page 35/40. Change MS/SD LED to Low active.

(2008/04/11)
Page 31. Change C182,C194 to 0.1uF for MIC THD+N issue
Page 49.Change PR199 to 215Kohm for Battery UVP adjust.

(2008/04/14)
Page 31. Change C626,C662 to 4.7uF for MIC FSIV issue.
Page 29. Design for 88E8055.

Title		History (1)	
Size	Document Number		Rev
A3	M790-1-01		1.0
Date:	Wednesday, July 02, 2008	Sheet	53 of 54

(2008/04/14)
Page 16. Change L14,L16,L17 to 120ohm/100Mhz bead for CRT EMI issue.
Page 32. Add C797~C800(220pF)for Speaker EMI issue.
Page 37. Change R611,R612 to L26,L28 120ohm/100Mhz bead and C779,C780 to 15pF for Camera EMI issue.
Page 41. Add C790~C79(220pF)for power board EMI issue.

(2008/04/15)
Page 50. Change Boss7 pin2 connect to RC for EMI reserve and Add Finger SPR1,SPR2 for EMI issue.
Page 32. Add C802~C805(220pF)for Speaker EMI issue.

(2008/04/18)
Page 23. Update ODD connector for MOR request.
Page 26. Add R611,R612 and Change U24,C534 to no mount for MOR request.

(2008/04/21)
Page 19. Change C388,C389 to 15pF for Y6 test fail.
Page 24. Change C245,C246 to 18pF for Y2 test fail.
Page 31. Change C629,C652 to 220pF same as M760.
Page 36. Change C496,C497 to 27pF for Y3 test fail.Change R352,R353,R356,R357 to 100ohm,R590 to 33ohm for MS/SD fail items.

(2008/04/23)
Page 16. Update CN2 VGA connector type.

(2008/04/24)
Page 41. Change U_R1~R4 to NC,U_L1,L2 to mount.
Page 43. Add PC187,and Change PC23,PC33 to 680P for EMI request.

(2008/04/25)
Page 16. Update D11 to SL22 for CRT ripple noise.

(2008/04/28)
Add C806~C808,PC188,PC189(0.1uF) for ESD solution.
Page 27. Change CN14 to FOX_1CX42201-SM for ME request.
Page 36. Change CN11 to Gray color,C459,C488 to X5R and R568,R359,R377 to mount for MOR request.

(2008/04/29)
Page 21. Change C717,C723 to X5R.

(2008/04/30)
Page 26. Change C538 to mount for ripple noise.
Page 37. Change R7/F3 to mount,R9/R4 to NC for 3.3V Camera.
Page 50. Change BOSS3,6,7,10 to 1M-1F50M20-5000 and NC BOSS6.

(2008/05/02)
For MOR request,add F5,F6,F7.
Page 6. Add R618~R621 475ohm for CR# issue.
Page 21. Change C721 to 1uF for Intel design change.

(2008/05/06)
Page 16. Change R418,R424 to 30 ohm for Graphic test fail item.
Page 50. Update PAD1,2 size.

(2008/05/07)
Page 36. Change R590 to 22ohm for SD card clock issue.
Page 37. Add resver regulater IC for Camera power.
Page 41. Add C811 for ESD issue.
Page 50. Add resver C812,R623 for EMI issue.
Page 43. Change PQ5 from A04433 to SI4825DY-T1-E3 for EMI issue.
Page 47. Add PC190 for EMI issue.

(2008/05/08)
Page 6. Add TP153,TP154 for FSB easy measure.

BOM Change
Change CN25 to LN27131-A403-4F.
Change R352,R353,R356,R357 to 68ohm.
Change R601 to mount,F5 to NC.
Change U41,C813~C817,R626,R625,R4 to mount,R7,F3 to NC.

(2008/05/14)
Page 16. Change R418,R424 to 22ohm for CRT issue.
Page 43. Change PL6,PL8 to no mount,Change PL7 to 1000R-100MHZ_0.015R for EMI issue.
Page 47. Change PR115 to no mount.

M790 PVT
(2008/06/03)
Page 25. Add lable1 for BIOS.
Page 39. Change CN8,CN9 to grey color.

(2008/06/11)
Page 23. Delete PJ3 for unnecessary
Page 43. Change PL7 to 1L-FPWC090-7H01 for EMI request.
Page 43. Change PQ1,PQ2 from17-S134240-VT00 to 17-S13424B-DV00 for PUR request.
Page 43. Delete PR20 for unnecessary
Page 44. Delete PJ18,PJ19 for unnecessary
Page 45. Delete PJ12,PJ13,PJ14,PJ20 ,PJ21for unnecessary
Page 46. Delete PJ6,PJ7,PJ8,PJ9 ,PJ10 for unnecessary
Page 47. Delete PJ11,PR97,PR89,PR105,PR108 for unnecessary
Page 48. Delete PR77,PR72,PR65 for unnecessary
Page 49. Delete PR12,PR38,PR46 for unnecessary

(2008/06/16)
Page 32. Change F5 to 1.5A and to mount for MOR request.

(2008/06/23)
Page 41. Change C790~C796,C811 to 220pF for EMI and Hotkey issue.
Page 41. Add Fuse(F8) in power source on power board for short test.
Page 43. Mount PC156,PC157 and Add PC191 for EMI issue.
Page 50. Change BOSS7,10 connect to GND.

(2008/06/24)
Page 40. Change LED1,LED2,LED6 to HT-110UY,LED5 to HT-110UD.R383,R598 to 120ohm for MOR request.
Page 41. Change P_LED1~P_LED3 to HT-150YG.P_R1~P_R3 to 100 ohm for MOR request.

(2008/07/02)
Page 31. Change C184,C192 to 4.7uf 0603 for MIC THD+N issue this change same as M761.
Add ESD solution C810,C812,C818,PC192(0.1uF).

M790 MP
(2008/07/24)
Page 25. Change CN26,U11,C308,R221 to no mount,R233 to mount.
Page 40. Change R385 to 33ohm,R383,R598,R599 to 68ohm for LED bright issue.

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